Aalto University
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Tiina Toskovic

A different view on service design: The perspective of the participant

Master's Thesis

Helsinki, 8.1.2016

Supervisor: Professor Riitta Smeds, D.Sc. (Tech)

Instructors: Soile Pohjonen, LL.D., Marika Noso, M.Sc. (Econ)

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Aalto University School of Science Degree Programme in Information Networks	ABSTRACT OF THE MASTER'S THESIS

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Service design brings together service providers and end-users to co-design services that are valuable from both the business and the user perspective. The existing research of the field revolves around the experiences of service designers, yet service design projects always occur in co-operation with end-users and employees of the client organization. Little is known of the perception that these participants have of service design, and of the factors that affect their participation. Tapping into this perspective could help conduct successful service design projects, and assist in constructing a complete theoretical picture of service design.

This thesis aims at creating novel understanding of the perspective that participants of a service design project have of service design, its process, and the challenges and enablers related to it. This vision is pursued by means of a qualitative single-case study within a service design project between a Finnish service design agency and a telecom operator. The study builds upon a theoretical literature review, which defines service design based on its nine most significant characteristics, sketches a service design process and identifies 44 factors that affect a service design project.

Based on the study, service design participants seem to highlight the active role of the client organization during a service design project, and the project is considered to begin with an exploratory in-house phase. Furthermore, many of the identified challenges (12) and enablers (10) of service design relate to the organizational sphere. The concept of service design has, from the participant perspective, remained vague, and is often confused with digital service development. Service design is seen to materialize in customer-centered activities, yet customer-centeredness acts rather as a mindset for self-reflection than as the pervasive core of the process.

Based on this study, it is evident that the participant perspective increases the depth of the current understanding of service design as a research area and a field of practice. However, more research from diverse contexts is needed in order to form a complete view of the perspective. This research, in turn, requires a solid theoretical foundation and a more unified understanding of the designer-perspective of service design.

Keywords: service design, participants, service design characteristics, service design process, challenges of service design, enablers of service design

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Palvelumuotoilu tuo palveluntarjoajat ja loppukäyttäjät yhteen suunnittelemaan palveluita, jotka ovat arvokkaita sekä liiketoiminnan että käyttäjien näkökulmasta. Alan tämänhetkinen tutkimus keskittyy muotoilijoiden kokemuksiin, mutta palvelumuotoiluprojektit vaativat aina yhteistyötä loppukäyttäjien ja asiakasyrityksen työntekijöiden kanssa. Vain vähän tiedetään siitä, millainen näkemys näillä osallistujilla on palvelumuotoilusta ja tekijöistä, jotka siihen vaikuttavat. Tämän näkökulman tarkempi tutkimus auttaisi palvelumuotoilijoita toteuttamaan onnistuneempia palvelumuotoiluprojekteja ja edistäisi aukottoman teoreettisen näkemyksen muodostamista palvelumuotoilusta.

Tämä diplomityö pyrkii luomaan uutta ymmärrystä liittyen osallistujien näkemyksiin palvelumuotoilusta, sen prosessista, sekä sen haasteista ja mahdollistajista. Ymmärrystä tavoitellaan kvalitatiivisella tapaustutkimuksella, joka sijoittuu suomalaisen palvelumuotoilutoimiston ja teleoperaattorin väliseen palvelumuotoiluprojektiin. Tutkimus pohjaa teoreettiseen kirjallisuuskatsaukseen, joka määrittelee palvelumuotoilun sen yhdeksän keskeisimmän ominaisuuden avulla, luonnostelee palvelumuotoiluprosessin sekä tunnistaa 44 palvelumuotoiluprojekteihin vaikuttavaa tekijää.

Tutkimuksen perusteella palvelumuotoilun osallistujat painottavat kirjallisuutta selkeämmin asiakasyrityksen aktiivista roolia palvelumuotoiluprojektissa, ja projektin nähdään alkavan yrityksen sisäisellä vaiheella. Myös monet tunnistetuista palvelumuotoilun haasteista (12) ja mahdollistajista (10) liittyvän organisatoriseen piiriin. Osallistujien näkökulmasta palvelumuotoilu on konseptina epämääräinen, ja se sekoitetaan digitaaliseen palvelukehitykseen. Palvelumuotoilun nähdään aineellistuvan asiakaskeskeisessä toiminnassa, joskin asiakaskeskeisyys näyttäytyy ennemmin itsereflektoivana ajattelutapana kuin projektin ytimenä.

Tutkimuksen perusteella on itsestään selvää, että osallistujien näkökulma tuo uutta syvyyttä ymmärrykseen palvelumuotoilusta tutkimusalana ja käytännön toimintana. Lisätutkimus monipuolisissa konteksteissa on kuitenkin välttämätöntä, jotta kokonaisvaltaisempi näkemys osallistujien näkökulmasta voidaan muodostaa. Tällainen tutkimus sen sijaan vaatii vankkaa tieteellistä pohjaa sekä yhtenäisempää ymmärrystä palvelumuotoilusta.

Asiasanat: palvelumuotoilu, osallistujat, palvelumuotoilun ominaisuudet, palvelumuotoiluprosessi, palvelumuotoilun haasteet, palvelumuotoilun mahdollistajat

ACKNOWLEDGEMENTS

As it turns out, one does not simply write a Master's thesis. For me, the journey has been full on unpredictable turns and surprising situations, but thanks to the wonderful people around me, I have never felt lost. Thus, I would like to warmly thank…

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In Helsinki, January 8th, 2016

Niina

Elämä on ihanaa,
elämä on kamalaa.

- Tiina 3v.

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1 INTRODUCTION

The first section of this thesis acts as an introduction to the study. The section presents the background and the motivation of the thesis, defines the research problem and objectives, as well as discusses the scope of the study. Finally, the section introduces the structure of the thesis.

1.1. INTRODUCTION TO THE STUDY

For the last four decades, the share and significance of the service market has constantly grown (Honkatukia et al., 2014); in 2015, services already formed over 70% of the Finnish national economy (Ministry Of Employment And The Economy, 2015). Due to the increasing competition over service users, service providers have realized the importance of designing services that truly match the needs of their current and potential customers (Moritz, 2005; Saco and Goncalves, 2008).

One increasingly popular approach for bringing the user perspective into service development is service design. This design-derived field emerged some 15 years ago (Kimbell, 2009), and has since been recognized not only by private companies but also by governmental actors (see e.g. Ministry Of Employment And The Economy, 2011). In practice, service design acts as a facilitative platform that brings together the service providers and users to co-design services that are valuable from both the business and the user perspective. Consequently, service design has been praised to offer, for instance, robust competitive advantage (Miettinen et al., 2011; Moritz, 2005), high customer retention, and larger profit margins (Moritz, 2005).

Due to the novelty of the approach, the research into service design has mainly focused on methodology as well as the applicability and dissemination of the service design mindset and way of working. These themes have mostly been discussed by designers for designers: conveying the practical experiences to others in the field has received considerable attention within the service design literature.

What the service design research currently lacks, is the perspective of service design project participants, such as representatives of client organizations or service end-users. Little is known of the challenges that these persons face during a service design process – if they consider it a process, at all – or of the factors that enable them to take part in the action. Furthermore, no factual understanding exists of the

comprehension that these participants have of the essence of service design. In brief, service design, while advocating the user perspective to other fields, lacks a vision of its own user-centeredness.

Displaying little interest towards the participant perspective is no minor flaw, as service design projects should always be a team effort; all the participants affect not only what happens during the project, but also the outcomes and the impact of it. Thus, tapping into the participant perspective may prove valuable for carrying out service design projects that truly meet the needs of their participants. Finally, with a deeper understanding of the world of the participants, service design agencies can more effectively disseminate service design thinking as well as more accurately direct their sales argumentation.

This thesis aims at creating novel understanding of the perspective that participants of a service design project have of service design, its process, and the challenges and enablers related to it. This vision is pursued by means of an empirical single-case study that builds upon a theoretical literature review. The case project of the thesis took place during the fall 2015, and concerned the development of online self-service for a Finnish telecom operator. During the project, co-design among the service designers and the representatives of the operator was emphasized, which makes the project an interesting source of material for this thesis.

1.2. RESEARCH PROBLEM AND OBJECTIVES

This chapter defines the topic, the objectives and the research problem of this thesis. It begins with presenting the subject of the thesis and then sheds light on the previous research that has been conducted around it. Next, it defines the research problem of the study. Finally, the chapter proceeds to identifying the theoretical and empirical objectives and research questions.

The topic of this thesis is the participant perspective of service design. A participant is defined as a person, who has taken part in a service design project, but is not a service designer: e.g. a representative of the client organization or a service user. In practice, the topic consists of understanding, how the participants define the essence and process of service design and what in their opinion has hindered or promoted the process. These aspects have been chosen, as they build a complete and versatile picture of the participant point of view.

1 INTRODUCTION

Within the existing service design research, the participant perspective has yet not received much attention. Virtually no research exists of the understanding that the participants have of service design or the service design process, and the challenges and enablers of service design have been mostly commented in the discussion sections of case studies – have they been mentioned at all. Several studies that have explored the functionality of service design methods or tools have included the viewpoint of the participants (see e.g. Mattelmäki, 2006; Vaajakallio, 2012), but in these cases the emphasis has always been put on individual methods instead of the complete service design process. Furthermore, it often remains unclear, to which degree the reflections are based on participant feedback and to which degree on the observations of the researchers themselves. Under these circumstances, it is hardly surprising that the participant perspective of the essence, process, challenges and enablers of service design has never been studied as a unity.

The high-level goal of this thesis is to create a unified understanding of the perspective that participants of a service design project have of service design. This goal has been formulated as the fundamental research problem of the thesis

What is the perception that participants of a service design project have of service design?

To be able to answer this question, theoretical and practical objectives and research questions have been formed. The theoretical objective of this thesis is to create a comprehensive understanding of the conception that the current service design research has of the nature, process, challenges and enablers of service design. As little research on the participant perspective yet exists, the theoretical objective is concerned with building a general base of knowledge, a framework, against which the empirical results of this thesis can be compared. The literature review in the third section of this thesis provides answers to the theoretical research questions, which have been constructed as follows

TRQ1. What is service design?
TRQ2. What is a service design process?
TRQ3. What challenges does a service design process include?
TRQ4. What are the enablers of service design?

On the practical side, the objective of the thesis is to gather empirical knowledge of the participant perspective of service design. The practical findings will on their part also contribute to the theory of service design, as they will provide a starting point for a broader research around the participant perspective of service design. The empirical research presented in section four answers the empirical research questions, which have been formulated as

ERQ1. How could service design be defined from the perspective of the participants of a service design project?
ERQ2. How do participants perceive a service design process?
ERQ3. What challenges do the participants encounter?
ERQ4. What do the participants consider as enablers of service design?

Figure 1 summarizes the research arena of this thesis. It illustrates the connections between the research (existing and missing), the perspectives (service designers' and participants') and the research questions of this thesis (theoretical and empirical). Particularly, the figure highlights the interconnectedness and equal importance of the perspectives of service designers and project participants: the two viewpoints together form the service design project, and thus, they should be valued and researched to the same degree.

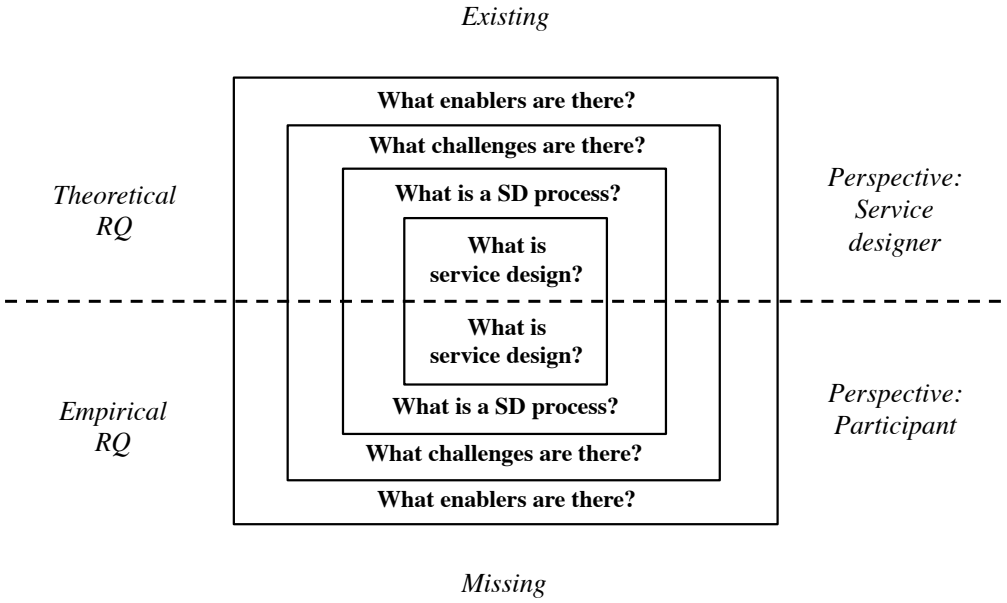

Figure 1 - The research arena of this thesis

1.3. SCOPE OF THE STUDY

This study focuses on the perception that the participants of a service design process have of service design. Due to the broadness of the topic, it has been necessary to set some limitations regarding the scope of the study.

First of all, the participants that this thesis concerns have been limited to those persons, who have taken part into more than one interview or service design event during the case project. This restriction has been applied to ensure that the informants of this thesis have had the time to develop some kind of a perception of service design. Service design projects typically include sporadic interviews with service users, who are not acquainted with the project itself, and these participants could hardly give any valuable input regarding the service design process as a whole. Hence, they do not belong to the focus of this thesis.

Second, this thesis does not concern the feelings that the participants have regarding the service design project or whether they liked the project or not. In addition, the opinions about individual service design methods do not fit the scope of this study. Instead, the thesis studies the understanding that the participants have of service design as a process, as well as the concrete factors that have hindered or enabled their attendance in the project.

Third, this thesis studies the challenges and enablers of service design as rather isolated phenomena, i.e. it does not coherently ponder on the cause and effect relations that inevitably exist between and within these groups. This discussion has been mostly excluded from the thesis, as it would have – within the dimensions of a master's thesis – remained speculative, at best.

Lastly, this thesis aims at discussing and creating knowledge of the participant perspective of service design, not at giving practical recommendations to the companies involved. Thus, from the point of view of the case companies, the thesis acts as a tool for self-reflection instead of a ready-made answer key.

1.4. STRUCTURE OF THE THESIS

This thesis consists of six sections (see Figure 2). The first section, Introduction, presents the background and motivation of the thesis, defines the research problem and objectives, as well as discusses the scope and the structure of the thesis.

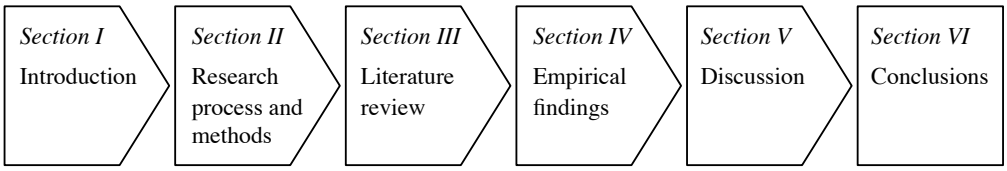

Figure 2 - The structure of the thesis

The second section takes a closer look at the research process and methods that are applied in this thesis. It presents the phases and methodology of the research, and describes the collection and analysis of the data.

The third section, Literature review, provides the theoretical background of the thesis. The section starts with a brief look at the background of service design, and then continues to define service design and its process. Next, the section identifies challenges and enablers related to service design, and briefly ponders on their connections. The section ends with a summary of the whole literature review.

The fourth section presents the empirical findings of this thesis. The presentation is organized to match the division of the literature review. The fifth section discusses these findings together with the results from the literature review.

The sixth and final chapter provides the conclusions and the answers to the research questions of this thesis. In addition, it evaluates the limitations and reliability of the study as well as presents suggestions for future research.

2 RESEARCH PROCESS AND METHODS

This section describes the research process of this thesis as well as the methods utilized during it. First, the progress of the research process is presented. Next, the research methodology, including qualitative research approach, abductive reasoning, case study and literature review, is reflected upon. Finally, the section discusses the methods of data collection and analysis that have been applied during the research process.

2.1. RESEARCH PROCESS

In this chapter, the research process of this study is presented. In Figure 3, the process is visualized chronologically.

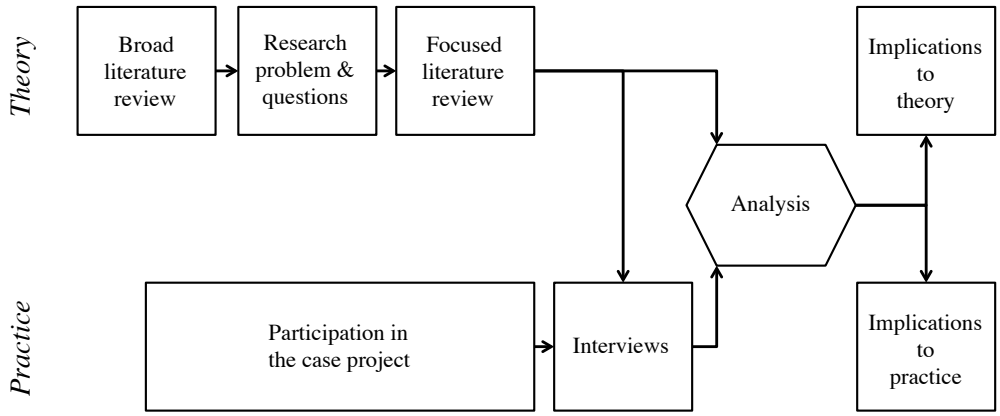

Figure 3 – The research process

The research process started with a broad and non-specific review of the existing service design literature. This overview aimed at detecting voids in the current service design research. The research problem and research questions of this thesis were formed around one of the missing themes, the participant perspective of service design. Thereafter, a deeper and more focused literature review was carried out in order to inclusively understand the comprehension that service designers and service design researchers possess regarding the essence, process, challenges and enablers of service design. This literature review resulted in theoretical conclusions.

Simultaneously with the theoretical process, I participated in the case project as one of the service designers. The impact of this involvement on the subject of the thesis

remained, however, very marginal, as the case project was singled out to be the empirical case of this thesis only after the literature review was completed. The structure and results of the literature review were utilized as a basis of the interview outline, which was used, when collecting the empirical data through interviews. After the interviews, the gathered data was analyzed and empirical results were formulated. Finally, the research process of this thesis culminated in drawing theoretical and practical implications based on both the theoretical and empirical findings.

2.2. RESEARCH METHODS

This chapter describes the research methods utilized in this thesis. The chapter consists of presenting the qualitative research approach and abductive reasoning, the case study method and the literature review.

2.2.1. Qualitative research approach

Whether a study should apply a quantitative or a qualitative research approach depends on the research problem at hand. The quantitative approach should be chosen, if the study aims to experimentally measure, for instance, quantity, amount, intensity or frequency. (Denzin and Lincoln, 2005) In contrast, qualitative methods focus on discovering variables (Corbin and Strauss, 2008) or describing the qualities of entities (Denzin and Lincoln, 2005). They are an apposite choice in studies concerning experiences, meanings or complex systems and relationships, as they excel in connecting the subjective perspectives with their broader contexts. Qualitative research typically employs research methods, such as interviews, observations, drawings or diaries. (Corbin and Strauss, 2008)

This thesis applies the qualitative research approach, as it pursues an understanding of the participant perspective of service design, which can be more comprehensively measured in qualitative terms. The next three sub-chapters take a deeper dive into the qualitative research methodology of this thesis by discussing abductive reasoning, the case study method and the literature review.

2.2.2. Abductive reasoning

According to Dubois and Gadde (2002), three approaches exist for connecting together theory and empirical evidence. The first approach, deductive reasoning,

tests theoretical assumptions and findings empirically, while inductive reasoning functions the other way round by creating novel theoretical knowledge based on empirical findings (ibid.). The third approach, abductive reasoning, lies somewhere in between: it strives for finding applicable theories for empirical findings (Kovács and Spens, 2005), which could be referred to as "theory matching" (Dubois and Gadde, 2002).

In practice, abductive reasoning combines the deductive and inductive approaches by iterating several times between theory and the empirical realm (Dubois and Gadde, 2002). Thus, it creates new theories based on both empirical findings and theoretical guidance, which may stem from previous research or simply intuition (Grönfors, 2008). The constructed theories or frameworks are modified according to insights that are gained during the iterative process (Dubois and Gadde, 2002). Figure 4 visualizes the process of abductive reasoning.

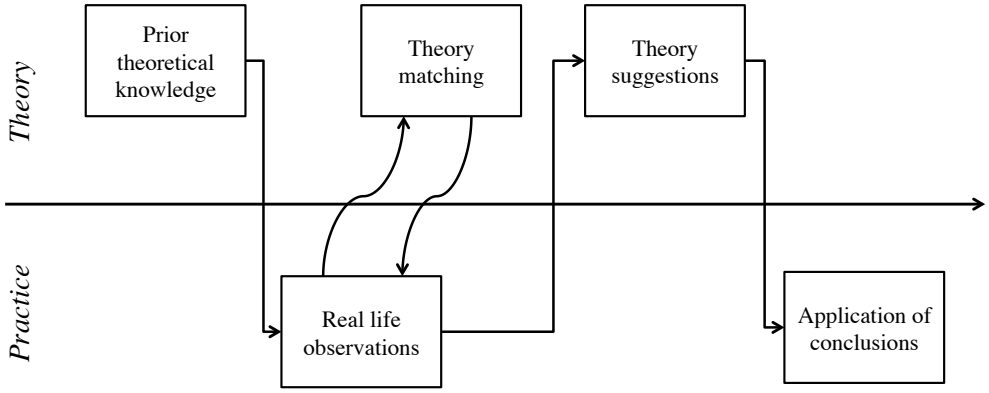

Figure 4 - Abductive reasoning (adapted from Kovács and Spens, 2005)

This thesis applies abductive reasoning due to its suitability for discovering new phenomena (Dubois and Gadde, 2002) and constructing a coherent understanding regarding them (Kovács and Spens, 2005). In addition, abductive reasoning offers the best premises for creating new knowledge in both the theoretical and the empirical sphere (Dubois and Gadde, 2002), which is the purpose of this thesis. The abductive process of the thesis begins by reviewing the existing service design literature, whereafter the empirical evidence is gathered. Based on both of these findings, an understanding of the participant perspective of service design is constructed, and thus, the focus is shifted back to the theoretical domain.

2.2.3. Case study

This thesis employs a single-case study as an empirical research strategy. A case study explores modern phenomena in their true context (Yin, 1981), and it can be applied to several purposes: to describe a phenomenon, to test a theory or to create new theory (Eisenhardt, 1989). A qualitative case study is an apposite tool for building theory particularly in areas with little or no previous research (Yin, 1981) or around themes that have been theoretically discussed but lack empirical evidence (Eisenhardt, 1989). The case study approach fits the purposes of this thesis, as the thesis aims at building new theory around a topic that has not been previously researched: the participant perspective of service design.

The case study approach produces theory that is closely linked to empirical evidence. This type of theory is often robust, when it comes to novelty, testability and empirical validity. However, relying too much on the case may easily give an overly narrow picture of the reality, and decrease the possibilities for generalization of the theory. (Eisenhardt, 1989) Especially in a study such as this thesis, these dangers are real, as only one case is utilized to describe a phenomenon that has not been researched before. Thus, the thesis emphasizes the context-bound nature of its results, and discusses their applicability particularly thoroughly.

2.2.4. Literature review

The objective of the literature review is twofold: First, the literature review aims at clarifying the background of the study. Second, it pursues a coherent understanding of the designer perspective on service design. The emphasis has been put on this viewpoint, as no literature regarding the participant perspective yet exists. Thus, the designer perspective is reviewed to create a point of reference for the empirical research, which then concentrates on the participant perspective.

Altogether, the theory of service design is still in its infancy (Kimbell, 2009): a relatively small amount of service design literature exists (ibid.; Sangiorgi, 2009), and most of it dates to the 21st century. According to Sangiorgi (2009), theoretical service design research has evolved inductively instead of deductively. This may have affected the material available: Even though academic journals have been important sources of material for this thesis, the majority of the literature review leans on case descriptions, conference papers, reports and handbooks.

Most of the material utilized in the literature review concerns service design in particular. However, the practice has existed longer than the term, and thus, relevant literature was sought also from fields to which a service design study may have been earlier classified. These similar fields include, for instance, user-centered design and emphatic design. The applicability of this material to the sphere of service design and consequently, to this thesis, has been evaluated by me as the author of the thesis.

The background material for the literature review was gathered by searching several scientific databases with the following keywords and their combinations:

- Service design / service design case study
- Service design characteristics
- Service design process
- Service design challenges / hindrances / difficulties
- Service design enablers / supporters
- User-centered design / emphatic design

2.3. DATA COLLECTION AND ANALYSIS METHODS

This chapter describes the collection and analysis of the empirical data of this thesis. The chapter starts with an account of the case, from which the data was gathered. Then, the semi-structured interviews, which were chosen as a data collection method, are discussed. In this connection, the analysis method of the interview data is presented.

2.3.1. Case description

This single-case study is based on a service design project that was carried out in the fall 2015. The parties of the project were a Finnish service design agency and a Finnish telecom operator, and the project was launched to develop the online self-service of the operator. Through the project, the telecom operator hoped to establish an understanding of the profiles, behavioral patterns and customer journey of the users of their online self-service, as well as to identify the most important design drivers for each user profile. Concept creation did not belong to the scope of the project, as such, yet some sketches were produced and prototyped in order to better understand the values and needs of different service users. The progress of case the project is presented in Figure 5.

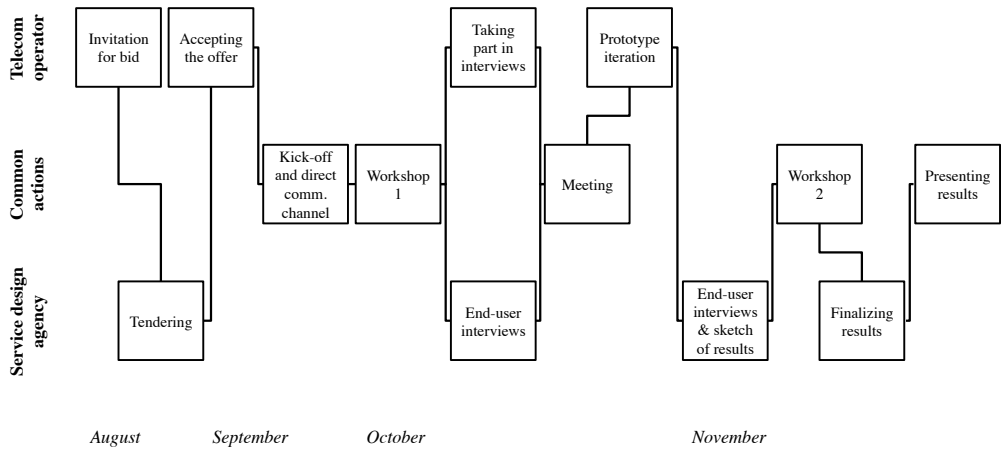

Figure 5 - The progress of the case project

The service design project started in August with an invitation for tender from the telecom operator to the service design agency. After the acceptance of the offer, a kick-off meeting was organized to define the goals and practices of the project. A digital team collaboration channel was established in order to secure effortless communication between the service designers and the key representatives of the operator. The first workshop among the service designers and the project participants was held in early October. In this workshop, key performance indicators (KPI) and metrics were assigned for measuring the success of the project. In addition, initial hypotheses regarding the development of the online self-service were identified. The project leader from the telecom operator drew these hypotheses into concept prototypes.

After the KPI workshop, the service design agency conducted the first round of user interviews. To keep the representatives of the telecom operator updated, all interviews during the project were both live streamed and uploaded to an online service. Furthermore, interview summaries were posted to the team collaboration channel and the project participants were encouraged to participate in the interviews. Indeed, the project leader took part in almost all interviews during the project, and two other representatives visited one interview each.

The first round of interviews was concluded with a meeting between the service design agency and the operator. This meeting served for discussing the main findings of the interviews and reflecting on their impact on the initial hypotheses. Based on this meeting, some of the prototypes were altered, and some new ones were drawn.

These prototypes were utilized during the second round of interviews. During and after this round, the service designers sketched user profiles and customer journeys, as well as identified the main bottlenecks for each profile. These results were discussed and finalized with project participants in a joint workshop. Finally, the findings of the project were presented to the operator in late November.

The service design agency orchestrated the project with a team of three full-time and one part-time member, myself. From the side of the telecom operator, 11 employees from different levels of the organization participated in the project. As the service end-users (12) were only interviewed once without any integration to the project, the employees of the telecom operator form the participant pool that is of interest for this thesis. Figure 6 illustrates the persons involved in the case project.

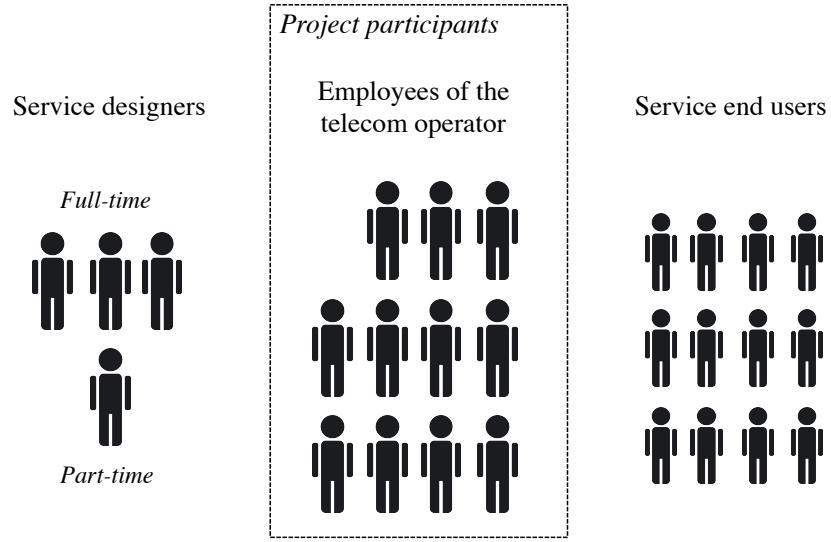

Figure 6 - Persons involved in the case project

The permission to utilize this service design project as a source of material for the thesis was granted by both the service design agency and the telecom operator. The motivation of the service design agency was to understand, how to carry out better projects to this and other clients. In addition, the agency hoped to find out, how the participants felt about the prototypes being drawn by the telecom agency instead of the service designers. The telecom operator, then again, was interested in reflecting the successes and pain points of the project.

2.3.2. Participant interviews

The empirical data of this thesis was gathered by interviewing the representatives of the telecom operator, who participated in the case project. Interviews were a pre-eminent choice of method for data collection for several reasons: First, they provide a flexible arena for rich communication, and suit studies that seek answers to open questions (Gillham, 2010). In addition, they are typically employed in case studies (Eisenhardt, 1989). As this thesis looks into the experiences and thoughts of the project participants, interviews were considered to afford the profoundest possible data set for analysis.

According to Denzin and Lincoln (2005), interviews can be constructed as structured, semi-structured or unstructured. In this study, semi-structured theme interviews were applied, as they provide a balance of form and flexibility (ibid.): The conversation concentrates on the themes that the interviewees find important, yet it also fulfills the purposes set by the researcher.

Eight out of the total of eleven case project participants were willing to participate in the study and thus, interviewed (see Table 1). The interviews were conducted over a five-day period within three weeks of the completion of the case project. This time limit was set to ensure that the participants would still have the project experience in fresh memory. Most of the interviews were carried out in the office of the telecom operator, and one via phone as per the request of the interviewee. The interviews lasted between 30 and 60 minutes, and they were all recorded for future reference.

Table 1 - Interviews

Date	Number of interviews	Medium
10.12.2015	5	Face-to-face
11.12.2015	1	Telephone
14.12.2015	2	Face-to-face

The outline for the interviews was constructed based on the structure and the findings of the literature review. It consists of four major themes: the essence of service design, the service design process, the challenges in service design and the enablers of service design. However, one adjustment was made compared to the

structure of the literature review, as the essence of service design was placed not first but last. I consciously chose this order, as I assumed that the interviewees were not entirely familiar with service design as a topic. Thus, the nature of service design could be better pondered on after processing the experiences from the case project. The complete interview outline can be found in Appendix 1.

The interviews began with a brief conversation on the previous experiences that the interviewees possessed or did not possess of service design. With this warm-up question, I aimed at identifying a suitable level of discussion for the interview. Consequently, the focus was shifted to the case project. The interviewees were requested to describe the case project from their point of view: when did the project start, in which activities did they participate during the project, and when did the project end for them. Simultaneously, I visualized the process on a flip chart sheet.

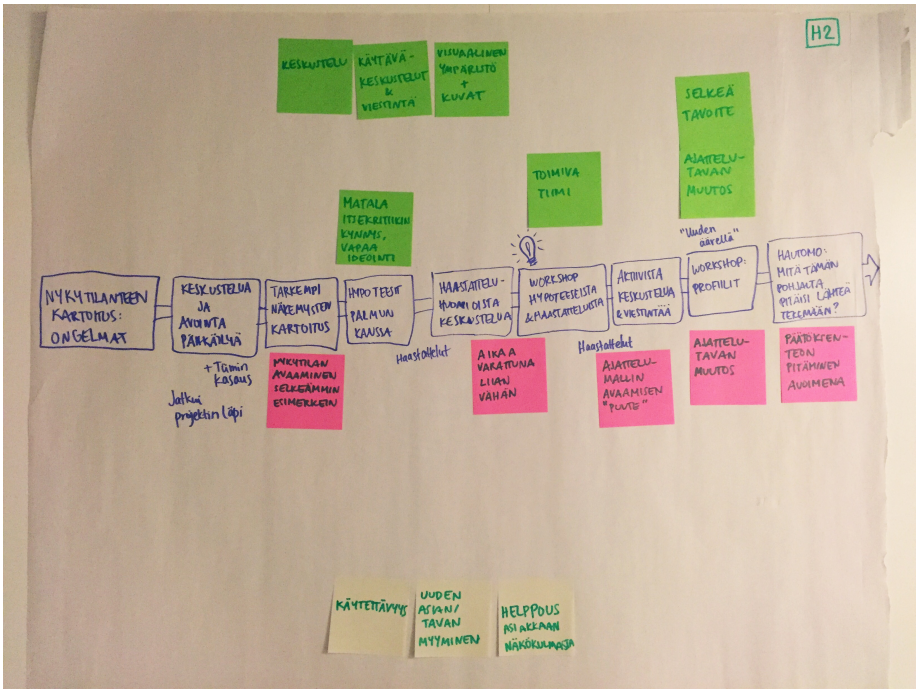

Figure 7 - A visualized participant process

The visualized participant process was utilized as a basis for a discussion regarding the challenges and the enablers that the interviewees encountered during the case project. First, the interviewees were asked to ponder on possible challenges and enablers concerning each of the activities they took part in. Second, themes from the literature (e.g. *misconceptions regarding design* or *internal change agents*) were raised to enrich the conversation. Thus, the findings of the literature review were

discussed, but they were not let to completely steer the conversation. All the challenges and enablers that the interviewees mentioned were collected on the flip chart sheet on red (challenge) or green (enabler) post-its (see Figure 7). In addition, they were placed to the appropriate process phases together with the interviewees. This visual method was applied to ensure that the comments of the interviewees were understood correctly; the interviewees were at all times able to add, change, remove or re-arrange factors or activities on the flip chart sheet.

Finally, the interviewees were requested to define the most important characteristics of service design based on their experiences and the interview. These comments were documented with yellow post-it notes on the flip chart sheet (see Figure 7). After the interviews, all the visual results were photographed to ensure that no data was lost.

2.3.3. Analysis of the interview data

Due to the visual method of interviewing, the key points of the interviews were already gleaned during the interviews. Thus, the interview recordings were not transcribed or coded digitally in full. Instead, the data was further handled and analyzed mostly in a visual and tangible form.

Based on the interviews, a combined process chart of the case project was drafted (see Figure 8). The challenge- and enabler-post-its were labeled with numbers correspondent to the ordinal of the interview and then placed to the process phases they belonged to. Next, the post-its were grouped based on their similarities. These groups were titled (e.g. *concrete goals* or *understanding the big picture*) and further classified to thematic categories. The only data that was not placed to the process chart concerned the essence of service design. This data was categorized by grouping post-its containing similar characteristics together. Hence, it was straightforward to identify the most important service design characteristics from the participant perspective. Altogether, all data from the interviews was processed into the same format as the findings of the literature review. This enabled a comparison between the two sets of findings.

Figure 8 - A combined process chart with grouped challenges and enablers

3 LITERATURE REVIEW

In this section, the theoretical background of this thesis is discussed in the form of a literature review. The aim of the literature review is to provide answers to the theoretical research questions. Thus, the literature review focuses on the designer perspective of service design. The section consists of five thematic chapters: First, the roots of service design are briefly discussed. Next, the chapter 3.2 defines service design based on its characteristics. The third thematic chapter explains a general service design process, while the fourth identifies challenges related to it. The chapter 3.5 discusses the enablers of a service design process, and the chapter 3.6 analyzes them together with the previously identified challenges. The literature review ends with a concluding chapter, which compacts the findings of the whole section.

3.1. ROOTS OF SERVICE DESIGN

This chapter examines the roots of service design. It aims at creating a foundation for a profound understanding of service design by identifying the phenomena that positively affected the emergence of the field.

Service design emerged in the shift of the 20th to the 21st century, which makes it a relatively young field. (Kimbell, 2009) It can essentially be described as a design field, as it rests upon design tradition (ibid.) and design thinking (Moritz, 2005). However, it is noted by many researchers (e.g. Kimbell, 2013 and Lee, 2011) that service design also holds strong ties to service marketing and management research. Based on the literature of both design and services, it can be stated that the emergence of service design was preceded and facilitated by three important changes: the shift from products to services, the evolving role of design, and the rise of user-centeredness. Next, these changes will be briefly discussed.

After the 1990's, the strong tradition that considers products as the basis of exchange has been challenged by an increasing attention to the concept and value of services (Vargo and Lusch, 2008). The aims to distinguish services from products have resulted in characterizations of services as, for instance, intangible, heterogeneous, inseparable and perishable (Lovelock and Gummesson, 2004) or more generally as less standardized and uniform than goods (Ainamo, 2008). Services are considered to consist chiefly of processes that are experienced, created or participated in

(Alonso-Rasgado et al., 2004), and consequently they have impact but no clear form (Shostack, 1984). Thus, services cannot be designed in similar ways as products traditionally have been (Moritz, 2005).

The recognition of services has lead to the emergence of product-service hybrids (Shostack, 1982) and servitization: manufacturers are evolving into solutions companies that name services as a key growth area in their business (Moritz, 2005; Sundbo and Toivonen, 2011). Vargo and Lusch (2008) have even suggested that services, instead of products are the basis of exchange, and that the value of offerings can only be realized by co-creating with users – exactly as in services. This change of status quo together with the rapid growth of the service sector has called for a new understanding of how services could and should be designed (Moritz, 2005).

One potential answer to the call has been proposed to be the field of design. Traditionally, design has mainly dealt with designing products or appearances, and it still is often associated to that (Mager, 2009). However, the shift from products to services has opened a whole new playground for designers (Moritz, 2005): as service providers are increasingly recognizing and utilizing the abilities of designers (Lee, 2011), design as a field has evolved from form giving (Honkonen, 2013) to creating complex experiences, processes and systems (Moritz, 2005).

The rise of user-centeredness within design in the 1990's was, as well, necessary for the emergence of service design. Instead of designing first and foremost to companies, users were lifted up as a central group, whose opinions, needs and experiences should be taken into account. (Kimbell, 2009) Eventually, this led to the shift from designing *for* users to designing *with* users (Moritz, 2005). This shift was especially relevant in the context of designing services, because of the simultaneity of service creation and consumption (Bessant and Maher, 2009), both of which the users are closely involved in as "user-producers" (Sundbo and Toivonen, 2011). Thus, users can be seen as sources and co-creators of value (Prahalad and Ramaswamy, 2004; Ramirez and Mannervick, 2008; Morelli, 2009), which is indeed one cornerstone of service design (Vaajakallio and Mattelmäki, 2011).

3.2. DEFINING SERVICE DESIGN

Even though the roots of service design can be traced, there exists no clear consensus among researchers and practitioners on what service design actually is (Kimbell, 2009). It has not yet formed into an established theory or field of practice (ibid.), and employs no explicitly articulated language (Stickdorn and Schneider, 2011). Even though it is slowly becoming a discourse community (Krippendorff, 2005), no common definition for it has yet been formulated (Stickdorn and Schneider, 2011).

This chapter aims at creating a somewhat comprehensive definition for service design. In order to succeed in this, existing definitions for service design, its connections to other fields as well as service design characteristics are explored. At the end of the chapter, the characteristics-based definition is presented.

3.2.1. Previous efforts and connections to other fields

The difficulties in defining service design stem to a great extent from the world of practice: The design practice changes constantly, which leaves little room for considerations on definitions. (Sangiorgi, 2009) In addition, client organizations rarely define service design projects as service design, but may procure them, for instance, as web design (Akama, 2009). Concepts such as ‘design thinking’ and ‘innovating services’ are frequently used for projects, which would qualify as service design, and drawing a line between service design projects and other design projects may not prove unambiguous. (Kurronen, 2013)

The close connection between service design and other fields becomes evident during service design projects: Because of its facilitative nature, service design depends on specialist knowledge from other fields (Holmlid, 2007). As Moritz (2005) states, it resembles more a platform than a specific field of expertise. Figure 9 summarizes fields that are connected to service design. The figure is not meant to be exhaustive, but to cast light on different angles from which service design can be approached. It is worth noticing that service design integrates both analytical (e.g. business) and intuitive (e.g. design fields) angles (Lee, 2011), which could possibly originate from its bipartite roots in design and management practices.

Figure 9 - Areas with related expertise (adapted from Moritz, 2005)

Even though service design has strong ties to several fields, it cannot be defined based on them; the fields that are applied in service design projects vary case by case (Moritz, 2005). Instead, the attempts to define service design have concentrated on the objectives, tools and nature of service design. For instance, Segelström (2010) describes service design as

"the use of a designerly way of searching for solutions to problems in people-intensive service systems through the engagement of stakeholders".

This definition captures rather well the 'what' of service design, but leaves open the 'how': What exactly can be called a designerly way of acting? Hyvärinen (2015), in her definition, takes a practical angle to this question by defining service design as

"developing a service with tools familiar from design, for example by making the often so abstract service process visible through the use of visualizations, by

developing service ideas through iterative prototyping or by supporting the innovative actions of people with different backgrounds in co-creation meetings". [1]

Hyvärinen's definition leans on human-scale examples, which serve well for creating a rapid mental image of service design. However, the definition lacks academic background and a temporal dimension, and examples alone cannot illustrate the depth of the phenomenon. When it comes to comprehensiveness, the definition presented by Moritz (2005) is among the bests. He describes service design as

"the design of the overall experience of a service as well as the design of the process and strategy to provide that service. Service design is a process across the 4 D's: discover, define, develop & deliver. It is about understanding the client, organization and market, develop ideas, translate them into feasible solutions and to help implementing them. Service design is involved in the ongoing live-cycle of services and offers continuous evolution."

This definition gives an excellent overall view on service design. However, it emphasizes the service management and marketing side of service design considerably more than the design tradition. Service design being in essence a design field (Kimbell, 2009), this vagueness seems somewhat unsuited.

Indeed, defining service design is neither a straightforward nor a simple task (Kimbell, 2009). Most definitions capture well some angles of the field, but leave others in the background. In addition, many authors (e.g. Goldstein et al., 2002; Kurronen, 2013; Stickdorn and Schneider, 2011) have evaded the task of defining by giving a brief and rough definition in passing to other subjects or, on the contrary, by describing service design in full-length without coming to any clear conclusions. The next two sub-chapters aim at filling the void between these two opposites by defining service design through its characteristics.

3.2.2. Service design characteristics

In order to coherently define service design, this thesis examines the characteristics that are most often related to service design in service design literature. These characteristics were collected from 47 sources, and as a result, 28 individual traits

[1] This quote was translated from Finnish to English by the author of this thesis.

were identified. By combining the traits into larger entities, 17 final characteristics were formed (see Appendix 2). Table 2 summarizes the nine characteristics (together with their sub-traits) that were mentioned in more than five sources [2]. Next, these most significant service design characteristics will be discussed in more detail.

Table 2 - The nine most significant service design characteristics

Characteristic	Number of individual sources	Sub-traits	Number of individual sources
User-centered	34	User needs / empathy	27
		Human-centered	10
		Highlights user experiences	7
		Mediator between organization and users	3
Visual methods and prototyping	31	Visual methods / boundary objects	21
		Design-derived methods	15
		Prototyping	13
		Makes services visible and tangible	10
Holistic	21	Holistic	16
		Involves a business model	10
		Observes a service on large and small scale	4
Multidisciplinary and collaborative	21	Multidisciplinary and collaborative	21
		Highlights informal and tacit knowledge	2
Complexity	14	Complexity	10
		No clear brief / open-ended	6
Iterative	11	Iterative	11
Heterogeneous process	8	Heterogenity	5
		Inexplicit or explorative process	4
Arranges entities into sets of relations	7	Arranges entities into sets of relations	7
Useful, usable and desirable solutions	7	Useful, usable and desirable solutions	7

[2] Many characteristics were only mentioned by one or two authors. The limit of five mentions was applied to prevent individual authors from too much influencing the characteristics-based definition.

User-centered

The vast majority of service design authors (e.g. Junginger and Sangiorgi, 2009; Stickdorn and Schneider, 2011; Vaajakallio et al., 2013) regard service design as a user-centered field, based on which it could be stated that user-centeredness is the core of service design. Service design does not rely on general customer group descriptions, but operates on true user experiences and the intricate meanings and motivations behind them (Stickdorn and Schneider, 2011). Thus, its process progresses from specific insights to general understanding (Miettinen, 2011).

By bringing users into the dialogue, service design acts as a mediator between organizations and service users (Miettinen, 2011; Moritz, 2005; Vaajakallio et al., 2013). Users are considered to be both co-creators and experts of the service experience, and thus their opinions and needs have to be recognized. This does not imply that users are always right, but that their perceptions count. (Ramirez and Mannervick, 2008) The intention is that the organizations could learn from the users, and the users could, in return, get service that better matches their needs (Prahalad and Ramaswamy, 2004). With the help from the users, service touchpoints – the interaction points between users and the digital or material components of the service process – can be effectively planned and tested, and the user process can be smoothed (Kimbell, 2013).

Depending on the project, its goals and participants, user-centeredness in service design can mean either designing for users (e.g. gathering user understanding or testing solutions) or designing with them (e.g. joint workshops) – or both. (Moritz, 2005) In either case, service design emphasizes empathy towards users in every phase of design. (Miettinen, 2011)

Visual methods and prototyping

Service design rests upon design tradition (Kimbell, 2009), and thus many of the methods and tools that it employs are design-derived, as well (Segelström, 2010). In practice, most service design tools, such as customer journey maps (Kimbell and Seidel, 2008), design probes (Mattelmäki, 2006), service blueprints (Shostack, 1984) or design games (Vaajakallio, 2012), are highly visual. The abstract and intangible nature of services can be tackled with methods that capture the services visually, and hence present them in a visible and tangible form (Shostack, 1984). The visual

illustrations can act as boundary objects and facilitate discussions between people with diverse knowledge. Thus, the visual form functions as a tool for creating a shared understanding, and later on, for designing and developing the service. (Kimbell, 2013)

Prototyping represents another type of visual methodology typical to service design. It enables the design team to evaluate, which parts of the service actually deliver value to users. (Vaahtojärvi, 2011) Low-fidelity prototypes, such as cardboard models or storyboards are inexpensive and support the design process already early on, while high-fidelity prototypes like detailed service pilots suit better the final stages of service design (IDEO, 2011). Regardless of the choice of prototyping method, the design team should always keep in mind that prototypes are meant to function as tools for learning, not as the concrete basis of the final solution (Vaahtojärvi, 2011).

Holistic

Service design aims at forming a holistic view of the complete service process or offering (Kimbell, 2009). This means that it does not merely design individual touchpoints, but covers their relations and the service ecosystem, as well (ibid.); the design has to consider both material and digital details and the big picture (Kimbell 2013). In order to build a holistic understanding of every service aspect, service designers have to constantly shift their perspective between user needs, company values, stakeholder views and technological requirements (Stickdorn and Schneider, 2011). Moreover, they tend to treat services as parts of bigger entities – such as organizations or society – and design them in a way, which either fits (Lin et al., 2011) or purposely changes these surroundings (Junginger and Sangiorgi, 2009).

Multidisciplinary and collaborative

A truly holistic view of a service cannot be achieved without multidisciplinarity (Moritz, 2005). In the context of service design, multidisciplinarity can be detected on several levels: it can surface as multidisciplinarity of stakeholders and users (Piirainen et al., 2012), company representatives or design team– many service design projects feature all of these. Similarly as in the case with service users, multidisciplinarity is considered to be a way of bringing versatile knowledge to the table. It benefits the service design process by ensuring that different aspects of the

service are taken into account. (Moritz, 2005) Importantly enough, the multiple viewpoints are not handled separately, but more often than not brought concretely around the same table to discuss and design the service together. This makes service design also a collaborative effort. (Vaajakallio et al., 2013) The collaborative way of working enables the transfer of hidden or tacit knowledge between stakeholders, which is essential for reaching innovative outcomes (Kimbell, 2009).

With all the emphasis put on multidisciplinarity and the expertise knowledge of the client organization, the stakeholders and the users, the role and purpose of the service designer can be questioned. Indeed, even though the service designer pursues an understanding of the service ecosystem, (s)he is not a content specialist (Morelli, 2009). Instead, the service designer holds a crucial role as the enabler, connector and facilitator of the service design process (Junginger and Sangiorgi, 2009; Stickdorn and Schneider, 2011; Akama, 2009; Vaajakallio and Mattelmäki, 2011). His/her task includes bringing essential issues to discussions, supporting the multidisciplinary conversation (Vaajakallio and Mattelmäki, 2011) and facilitating the generation and evaluation of ideas (Stickdorn and Schneider, 2011). In addition to the expert skills in design, the service designer should be able to offer abilities in guiding, facilitating, critiquing, proposing, listening, communicating and accelerating discussion (Akama, 2009). Hence, the service designer acts as a coordinator of multidisciplinary cooperation (Miettinen, 2011).

Complexity

Service design entails two kinds of complexity: the complexity of the process (Stickdorn and Schneider, 2011) and the complexity of the subject of design (Sangiorgi, 2009). The first type originates from factors, such as multidisciplinarity and holistic perspective (Stickdorn and Schneider, 2011), which have already been discussed in this chapter. The latter, then again, relates to the open-endedness of service design; service design projects rarely start with a clear brief. Instead, the starting point for the designer is to give form to the design problem. (Sangiorgi, 2009) The client organization naturally holds some insights to the problem area, however the real core problem is identified and defined during the process (Akama, 2009). The core issues can typically be characterized as indeterminate or wicked problems (Sangiorgi, 2009). These intricate problems cannot be solved in a “right” or a “wrong” way; only good or bad solutions exist. Thus, no solution can be deemed

the one and only way to tackle the problem, which adds to the complexity of the service design process. (Rittel and Webber, 1973)

Iterative

A service design process advances in an iterative manner: the first solution is not expected to be a direct hit, but to help the project team learn and create knowledge based on which a better solution can be formed. (Holmlid, 2007) Service design requires continuous reframing not only of the solution but also of the problem at hand. In fact, the whole process (see chapter 3.3) can be called multi-level iterative, as every stage, workshop or session that it involves holds an iterative element. (Stickdorn 2011) In practice, iteration allows the project to shift back and forth between generative and synthesizing phases (Kimbell, 2009). Furthermore, it enables the project team to test the viability of their ideas multiple times so that flaws can be detected and iterated out as early on as possible (Vaahtojärvi, 2011).

Heterogeneous process

According to Young (2008) and Miettinen (2011), service design processes are heterogeneous: the process varies from case to case and the suitable design methods are chosen based on the prevailing project. Because of the unique nature of wicked problems, no step-by-step instructions or ready-made processes exist (Akama, 2009). In addition, even though the process may be planned in some level of detail in the beginning of the project, the explorative nature of service design often calls for adjustments along the way (Holmlid, 2007).

Some researchers (see e.g. Sundbo and Toivonen, 2011 and Akama, 2009) state that there cannot or should not exist an over-arching framework for service design. According to them, many service design case studies represent the service design process and tools as overly simplistic recipes, which can be applied to any case. However, for instance Moritz (2005), and Stickdorn and Schneider (2011) propose that service design process descriptions may prove useful as long as they are utilized as guidelines, not mantras.

Arranges entities into sets of relations

Even though service design entails designerly elements, it has fundamentally moved forward from simply designing appearances or giving form (Honkonen, 2013). The

function of service design is to design complete systems by arranging human and non-human artifacts or entities into sets of relations. In practice, this means creating the network that a service requires to exist by organizing the way the building blocks of the service (e.g. people, touchpoints, material components or digital systems) operate together. (Kimbell, 2009)

Useful, usable and desirable solutions

Ultimately, service design aims at creating useful, usable and desirable service solutions. Usefulness indicates that the service fulfills its function, while usability refers to the easiness of use of the solution. Finally, the solution should be designed to meet the needs or wants directed to it. (Moritz, 2005) Even though service design does not overlook the viewpoints of the organization or the stakeholders when it comes to pursuing these goals, the emphasis has been put on the perspective of the users (Miettinen et al., 2011). Hence, this characteristic and user-centeredness are strongly linked – service design literature advocates direct user involvement as the only method for the organization to understand, which solutions users actually find useful, usable and desirable.

3.2.3. Characteristics-based definition

This chapter has concentrated on identifying the major service design characteristics. Based on the analysis, nine important characteristics were identified. Utilizing them, service design can be defined as follows:

> *Service design is a design-derived field of practice, which aims at creating useful, usable and desirable service solutions to wicked and complex problems by pursuing a holistic understanding of the whole service ecosystem. Service design processes are heterogeneous, but design the multiple service components and their relations by utilizing a user-centered, multidisciplinary and collaborative approach together with visual design tools and prototyping.*

This definition aims at providing a holistic image of service design. It describes the actors involved, the ways of working, the process and the desired outcomes. In addition, the definition is in concord with the previously presented historical perspective on service design, and respects both the design tradition and the tradition of service management and marketing. As a downside, the definition still lacks the perspective of the participants.

3.3. SERVICE DESIGN PROCESS

This chapter sheds light on the controversial concept of a service design process. First, the chapter shortly discusses service design processes in general, and then proceeds to presenting a high-level process description from the point of view of service designers. This process model is later on utilized as a basis for understanding the challenges and the enablers related to service design.

As revealed in chapter 3.2.2, service design processes are heterogeneous, i.e. no two identical processes exist. During the process, service design methods and tools are applied based on the case at hand, which entrusts the design team with a responsibility of carefully analyzing the situations that they encounter during the project. (Moritz, 2005) Due to this diversity, researchers such as Akama (2009) and Sundbo and Toivonen (2011) argue that no unifying service design frameworks should be presented or distributed. This thesis, however, follows the moderate line of thinking of e.g. Stickdorn and Schneider (2011), and Moritz (2005), who believe that overall process descriptions can add to the understanding of service design as long as they are utilized as outlines. In practice, this means understanding the difference between blindly following and critically applying a process.

Most available service design process descriptions have roots in the world of practice: they have been created and utilized by companies practicing service design, and have not been academically presented. (Sangiorgi, 2009) However, regardless of whether the processes have originated within the academic world or not, they all seem to contain fundamentally similar phases. The differences lay within the division of these phases, levels of detail and dictions. Next, one description of a service design process will be presented.

3.3.1. Hear-Create-Deliver process model

The service design process presented and utilized in this thesis is based on the human-centered design process (Hear-Create-Deliver) of IDEO, one of the largest service design agencies in the world (IDEO, 2011). The process model comprises three phases: Hear, Create and Deliver. The Hear phase aims at understanding the service users and the client organization. The gathered knowledge is applied in the Create phase as a basis for ideation and prototyping, and the Deliver phase concentrates on honing the best concept(s) into robust service solutions.

This process model was selected for two reasons, the more significant of which being that the model coheres with the service design characteristics and definition discussed in the previous chapter. Secondly, the simplicity of the process model suits well the later purpose of mapping service design challenges and enablers, where comprehensive descriptions (see e.g. Moritz, 2005) would add no great value.

Figure 10 presents a slightly modified version of the Hear-Create-Deliver model. The basic process has been supplemented with two components: a diverging-converging sequence and iterative arrows. The diverging-converging structure highlights how a service design process on one hand repeatedly opens up for new insights, and on the other hand always narrows down with selection (Holmlid, 2007). The iterative arrows, then again, illustrate the intertwined nature of the service design process phases (Stickdorn and Schneider, 2011): problem reframing or changing solutions may require a step back in the process, and some process steps may even be carried out simultaneously (Holmlid, 2007). Next, the three major process phases will be discussed in more detail.

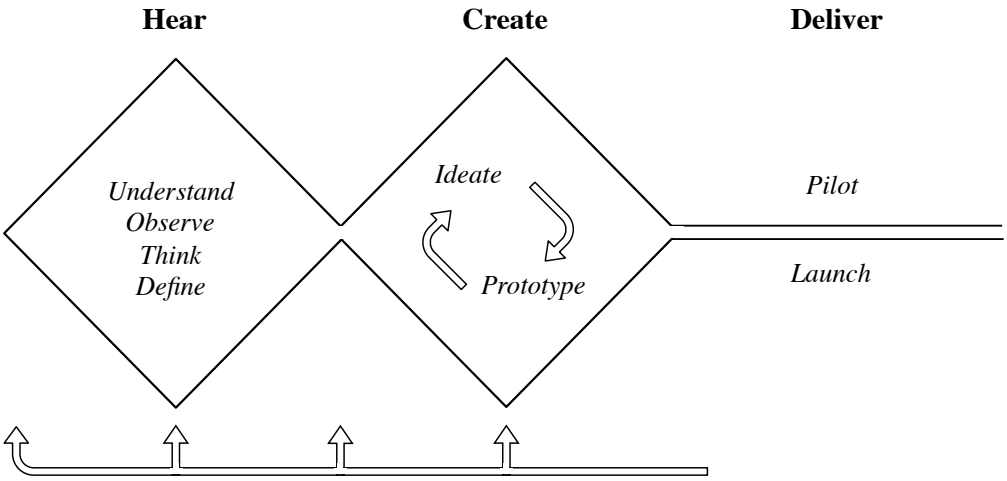

Figure 10 - The Hear-Create-Deliver process model (adapted from IDEO, 2011)

Hear

A service design process begins with gaining an understanding of the needs, wishes and dreams of service users (Miettinen et al. (2011); Stickdorn and Schneider, 2011; Moritz, 2005). Thus, the Hear phase crystallizes in listening to users and understanding them on a deeper level; in addition to simply observing their actions, their motivations and aspirations should be grasped in order to reveal the true context

of the findings (IDEO, 2011; Miettinen et al., 2011). The user perspective should always be accompanied by an understanding of the service context, client organization and relevant technology (IDEO, 2011). Bringing these angles together enables the design team to question and overcome the prevailing assumptions that organizations, users and the design team itself might have, and pave the way towards forming the real problem statement for the service design process (ibid.; Piirainen et al., 2012; Stickdorn and Schneider, 2011).

In practice, the diverging first half of the Hear phase mostly employs qualitative research methods (IDEO, 2011), such as design probes, interviews or observation (Moritz, 2005). These methods provide the design team with rich data (Denzin and Lincoln, 2005), which can be interpreted into insights [3]. Human-centered tools such as personas, customer journeys or use profiles may help distill the most important findings from the abundance of data. (IDEO, 2011)

Create

The Create phase shifts the focus of the service design process from research towards solutions (IDEO, 2011). The previously formed insights act as fuel for multidisciplinary workshops and ideation techniques, such as brainstorming or bodystorming, which aim at generating as great a number of ideas as possible (Rawlinson, 1981). During ideation, thinking should not be constrained; service design takes pride in challenging the current ways of thinking, which sometimes leads to provocative or confusing concepts. These concepts are meant to reveal meaningful attitudes or values of project participants, and should be considered valuable even if they are never applied as such. (Vaajakallio et al., 2013)

The ideation is supplemented by rapid prototyping, which quickly sorts out the viable ideas from the non-feasible ones. (Vaahtojärvi, 2011) During the Create phase, the fidelity of the prototypes increases: while rough sketches may serve well the first prototyping rounds, the final stages may require e.g. fully functional digital prototypes. The lessons learnt from the first prototyping rounds function as a basis for the following rounds as well as for further brainstorming. (Koskinen et al., 2013)

[3] The original IDEO model presents the synthesis and interpretation of data as the first task in the Create phase. In this thesis, this task is integrated into the Hear phase, as the diverging-converging lens and other research (see e.g. Stickdorn and Schneider, 2011) suggest this division.

Through the iteration of ideation and prototyping, the level of detail and robustness of the concepts increases and the service design process slowly converges towards a single solution. (ibid.; Stickdorn and Schneider, 2011)

Deliver

The purpose of the Deliver phase is to push the final concept(s) forward in the implementation pipeline. This involves additional prototyping and concept piloting, which often concentrate on specific details or the overall functionality of the solution. (IDEO, 2011) While validating the viability and feasibility of the service naturally belongs to the Deliver phase (Piirainen et al., 2012; Stickdorn and Schneider, 2011), the importance of building ownership and commitment to the design and upcoming change within the organization should not be underestimated, either (Piirainen et al., 2012; Vaajakallio and Mattelmäki, 2011). The more the service personnel from different organizational levels has been able to participate in the design process, the less complications are likely to surface, when they are requested to change their ways of working. (Vaajakallio and Mattelmäki, 2011) At the end of the Deliver phase, the service should be ready for launch. However, the launched service should not be considered final or unchangeable, as the organization should constantly develop it further and re-expose it to service design thinking. (Moritz, 2005)

3.4. CHALLENGES IN SERVICE DESIGN

A rather large part of service design literature consists of project reports and practical guides, which are targeted at practitioners and aim at spreading the word of service design. Thus, the tone of the material tends to be highly optimistic and even proclaiming. (Sundbo and Toivonen, 2011) In reality, service design projects confront several challenges along the way. In order to truly develop and spread the service design approach, these hurdles should be openly conversed. (Akama, 2009)

This chapter discusses the challenges that service designers may encounter during a service design project. The challenges are analyzed from a process perspective in order to create an understanding of which kinds of barriers exist in different phases of the process. The process description presented in the previous chapter is utilized as a basis of the analysis.

In Figure 11, service design challenges have been classified first based on the process phases they concern, and then thematically to three categories: Design, Collaboration, and Organization and management. This categorization was not pre-determined, but arose from the literature. It yielded one important adjustment to the Hear-Create-Deliver model presented in chapter 3.3.1: a new phase, "Before the service design project", was added, as the difficulties preceding the actual start of a service design project were highlighted in several sources (see e.g. Akama, 2009 or Voss and Zomerdijk, 2008).

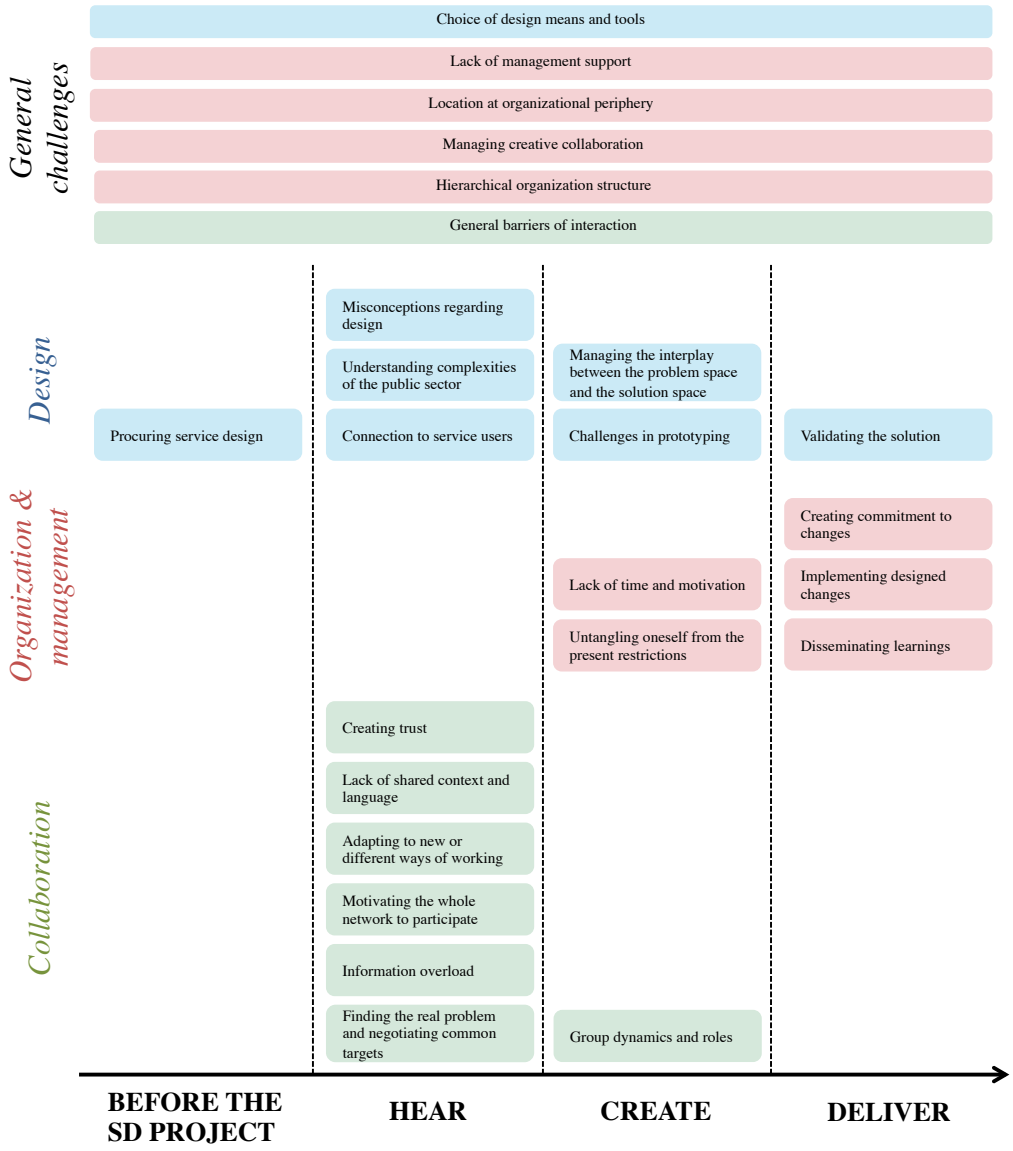

Figure 11 - Challenges during a service design process

The division summarized in Figure 11 should not be considered definitive; service design processes vary from case to case (Sundbo and Toivonen, 2011), and accordingly, so do the confronted challenges. In addition, some complications may arise in several process phases or have connections to more than one thematic group. These challenges have been grouped based on the dominant phase or theme, except for those challenges that concern the whole process, which have been categorized as General challenges. In the following, the challenges presented in Figure 11 will be discussed in more detail.

3.4.1. Before the service design project

The obstacles that precede the actual service design project are related to the relationship between design and procurement. According to Akama (2009), **procuring service design** is often difficult, as non-designers rarely fully understand service design. They have little information of what to expect and to which kinds of situations a service design approach could be applied (ibid.). Furthermore, demonstrating clear and tangible gains of service design, or predicting its outcome in financial terms is challenging (Akama, 2009; Tether, 2008; Design Commission, 2013; Voss and Zomerdijk, 2008). Even if a service design project is procured, strict procurement processes may collide with the fluid design process: in some cases, the problem brief cannot be questioned or reframed even though it might seem necessary from the design point of view (Design Commission, 2013).

3.4.2. Hear phase

In the beginning of a service design project, the challenges concentrate in building a basis for collaboration and managing the interplay between design and (public) organizations.

Building a collaborative working relationship among the participants of the project is crucial (Akama, 2009). Gaining and **creating the trust** required for this can, however, prove hard (Junginger and Sangiorgi, 2009) due to the prejudices and doubts about the credibility, reliability and know-how of participants representing other fields (Honkonen, 2013) – including service designers (Hakio et al., 2015). The mistrust is often compounded by **lack of shared context and language** (ibid.; Piirainen et al., 2012; Kurronen, 2013), which hinders effective knowledge sharing

(Hakio et al., 2015). A particularly great contrast exists between the design language and the managerial language of public organizations (ibid.).

In addition to creating a common language, the Hear phase requires project participants to **adapt to new or different ways of working** (Piirainen et al., 2012; Moritz, 2005). Not only does this involve being receptive to the customs of other organizations (Hakio et al., 2015), but also more importantly, working in a seemingly ill defined designerly way (Honkonen, 2013). This necessitates a change of mindset and acceptance of the user-centered approach (Kurronen, 2013). Facilitating this change is a challenge for the service designers, as professionals do not readily accept prescribed work methods (Piirainen et al., 2012), and slide shows and seminars might not be enough of an orientation for utilizing novel tools (Hakio et al., 2015). Furthermore, at the beginning working in a new way creates seemingly more work (Kurronen, 2013), and busy professionals often lack the time that would be needed to acquaint oneself with the methodology (Vaajakallio et al., 2013).

Due to the stressful, demanding and confusing start, **motivating the whole service network to participate** in the design process requires real effort (Vaajakallio and Mattelmäki, 2011; Hasu et al., 2011). Not all the members necessarily understand, why they should take part in the process (Hasu et al., 2011). The broader the network involved, the more aspects the participants have to assimilate, which may lead to **information overload**. Even tough all the viewpoints should be equally addressed (Piirainen et al., 2012), **finding the real problem and negotiating common targets** among inexperienced actors often create friction (Hakio et al., 2015), which is amplified by the ambiguity of the problems (Piirainen et al., 2012). Conflicts of interest may arise not only between organizations (Kolmas Persoona, 2014), but also between citizens demanding the best care and (public) service providers compelled to act within rigid structures (Greger and Hatami, 2013).

In addition to challenges associated with collaboration, the Hear phase involves three types of design-related challenges. First and foremost, non-designers frequently have **misconceptions regarding design** (Honkonen, 2013; Tether, 2008; Tuononen, 2013). This is hardly surprising, as the term ‘design’ holds multiple meanings (Design Commission, 2013) and practitioners rarely have previous experience of working with designers (Akama, 2009). Nonetheless, different or even false expectations together with fear of novelty readily lead to rejection of open-mindedly trying experiential approaches (Vaajakallio et al., 2013). Design methods may seem

like kindergarten games instead of serious work, and applying them may cause fear of losing face (Hakio et al., 2015).

Understanding the complexities of the public sector is the second design-related challenge in projects concerning public organizations. When the non-regulatory design world meets the structured public sector, concerns arise for instance regarding legal issues. (Honkonen, 2013) The complexity emerging from multi-layered bureaucracy, legal boundaries, as well as the age and sheer size of the public sector, poses a real challenge to the service designers (Greger and Hatami, 2013; Tuononen, 2013). The regulations regarding customer privacy may also make it hard to form a **connection to service users** (Tuononen, 2013; Keinonen, 2013). If the users consider the connotation of the desired user group negative (e.g. "alcoholics"), recruiting and retaining a large enough user group may be hard (Malmborg et al., 2010; Steen et al., 2011). Other challenges related to users in the Hear phase include documenting delicate situations (Hyvärinen, 2015) and preparing materials for challenging user groups, such as the elderly (Steen et al., 2011; Kolmas Persoona, 2014).

3.4.3. Create phase

The Create phase involves five challenges, among which all the three challenge categories (Collaboration, Design, Organization and management) are represented.

Typically, the Create phase manifests in workshops, which provoke collaborative challenges related to **group dynamics and roles**. (Hakio et al., 2015) Organizational hierarchy and dominant behavior of managers have deep roots and hinder the willingness of employees to voice ideas (Hasu et al., 2011; Kurronen, 2013). Employees may also feel that they should represent their organizations instead of their personal special knowledge (Hakio et al., 2015). On the other hand, employees often hold an expert role when compared to the citizens. Letting go of these habitual roles may meet resistance (Kronqvist et al., 2013), and without proper facilitation the focus of the work easily gets buried under group dynamical conflicts (Kurronen, 2013). A total lack of conflicts can, however, signal a risk of tunnel vision, groupthink and lowering criteria (Piirainen et al., 2012).

Along with the shift to the Create phase, service designers face the challenge of **managing the interplay between the problem space and the solution space**

(Piirainen et al., 2012). Co-evolving the problem and the solution can be hard as such (ibid.), as human nature is inclined to jump to solutions too hastily. On top of this, the shifting goals have to be justified within the client organization (Piirainen et al., 2012). Especially traditional businesses shun trial-and-error approaches, which can also lead to **challenges in prototyping** (Vaajakallio et al., 2013). Occasionally prototyping digital solutions can even turn out to be impossible, because of the bulky and inflexible IT systems (Hyvärinen, 2015; Greger and Hatami, 2013). In other cases, addressing the ripple effects of the solution to other systems and user groups may prove complex (Piirainen et al., 2012).

The last two challenges in the Create phase fall under the Organization and management category. Due to the tight resources of client organizations (Vaajakallio et al., 2013), service design projects suffer from **lack of time and motivation** from the side of the project participants (Hakio et al., 2015). It requires special effort to create excitement within organizations, which treat development work as an extra on top of normal duties (ibid.). In addition, incorporating the heavy design process into the tight schedules of busy employees demands resilience (Hyvärinen, 2015; Kurronen, 2013). However, the passivity of participants does not necessarily signal a lack of interest but that the chosen design activities require too much attention (Steen et al., 2011).

Finally, organizational culture and bureaucracy may hinder or demotivate employees from seeking innovative solutions (Vaajakallio et al., 2013). Especially on the legally regulated public sector, employees have difficulties in **untangling themselves from present restrictions** (Holopainen and Helminen, 2011). They tend to reject radical and broad-minded concepts, because these ideas question the status quo (Honkonen, 2013) within which the employees have been trained to work (Holopainen and Helminen, 2011).

3.4.4. Deliver phase

The Deliver phase focuses on honing the chosen concept and implementing it, and thus the challenges involved relate to design as well as organizational and managerial factors.

Before implementing the designed service, the design team should **validate the solution**, i.e. ensure that it truly solves the right problem. This is often easier said

than done due to the complexity and wickedness of the service design problems. (Piirainen et al., 2012) Client organizations commonly expect watertight proof of the superiority of the suggested changes (Vaajakallio et al., 2013), yet gathering the evidence requires meticulously chosen validation metrics (Piirainen et al., 2012). Even with them, confirming the cause and effect relations of services may prove a challenge (ibid.).

A validated service solution does not necessarily lead to successful implementation. **Creating commitment to the changes** can become a stumbling block, due to resistance welling from the client organization. (Piirainen et al., 2012) Motivating and engaging especially the service personnel is often neglected, even though the solution likely affects their ways of working the most (Vaajakallio and Mattelmäki, 2011). In addition, the often-lacking ownership to the design should be built within the organization to prevent the solution from getting stuck in the cogs of bureaucracy. (Piirainen et al., 2012)

In practice, **implementing the designed changes** throughout the whole organization can prove difficult due to the complexity or the sheer size of the organization (Lin et al., 2011). Applying future-oriented design can be deemed impossible, when the realities of the business come into play (Hakio et al., 2015). Finally, **disseminating the learnings** from service design projects is rarely efficient. Thus, invaluable tacit knowledge is lost, and the organization does not learn from their experiences and efforts. (Ministry Of Employment And The Economy, 2011)

3.4.5. General challenges

General challenges of service design processes concern the whole process rather than solely some parts of it. These challenges include one design challenge and one collaboration challenge, while the remaining four hurdles relate to organization and management issues.

General barriers of interaction may hinder collaboration in the service design project during its full length (Hakio et al., 2015). These barriers cause communicative misunderstandings (Sundbo and Toivonen, 2011), and include factors such as culture, language, background, environment and space (Hakio et al., 2015). These issues can rarely be much affected, yet the service designers should be aware of them and their effects (ibid.).

On the design side, the **choice of design means and tools** greatly impacts the service design project and even its outcomes. The challenge is to choose the methods in such a way that a balance between the design discipline and supporting stakeholder participation can be found. (Piirainen et al., 2012) Furthermore, the user groups involved may affect the array of potential methods (Kolmas Persoona, 2014).

When it comes to organizational factors, service design projects are frequently **located at organizational periphery**, which prevents them from having an organization-wide effect (Junginger and Sangiorgi, 2009). They only supplement bigger projects (Design Commission, 2013), and are thus not supposed to question the fundamental assumptions or values of the client organization (Junginger and Sangiorgi, 2009). In addition, the vertical decision-making culture and **hierarchical organization structure** hinder the interdisciplinary collaboration that service design requires (Hakio et al., 2015; Vaajakallio et al., 2013; Piirainen et al., 2012). Occasionally, the silos run so deep that the focus of service design interventions accidentally shifts from understanding the service users to understanding what happens in other parts of one's own organization (Hakio et al., 2015).

Finally, service design is a substantial managerial challenge, and most managers still lack experience and skills in **managing creative collaboration** (Vaajakallio et al., 2013). Thus, orchestrating and controlling an ambiguous design project takes them out of their comfort zone (Vaahtojärvi, 2011; Piirainen et al., 2012). As managers are not familiar with the service design process, the process often suffers from **lack of management support** (Vaajakallio et al., 2013). Without active engagement from managers in all process phases – including between workshops – employees easily get the impression that the project is not important (Hasu et al., 2011; Hakio et al., 2015). In addition, managers may unknowingly sabotage the process, if they do not succeed in transforming from invincible knowers to imperfect co-participants (Hasu et al., 2011). Holding fast to the managerial position and stubbornly leading the project according to one's own taste readily lead to false test results and watering down the service solution (Akama, 2009; Piirainen et al., 2012).

3.5. ENABLERS OF SERVICE DESIGN

This chapter discusses the enablers of service design processes, i.e. the factors that contribute to the success of service design projects. Interestingly enough, the current service design literature features no studies dedicated to understanding the enablers

from the viewpoint of a complete service design process. Research on success factors of individual design methods (e.g. workshops, design probes and design games, see Vaajakallio, 2012; Tuononen, 2013; Mattelmäki, 2006) does exist, yet on the process scale the debate on enablers has remained a side note in the discussion sections of case studies. This chapter aims at gathering together the understanding of enablers concerning the whole service design process as well as the different phases of it.

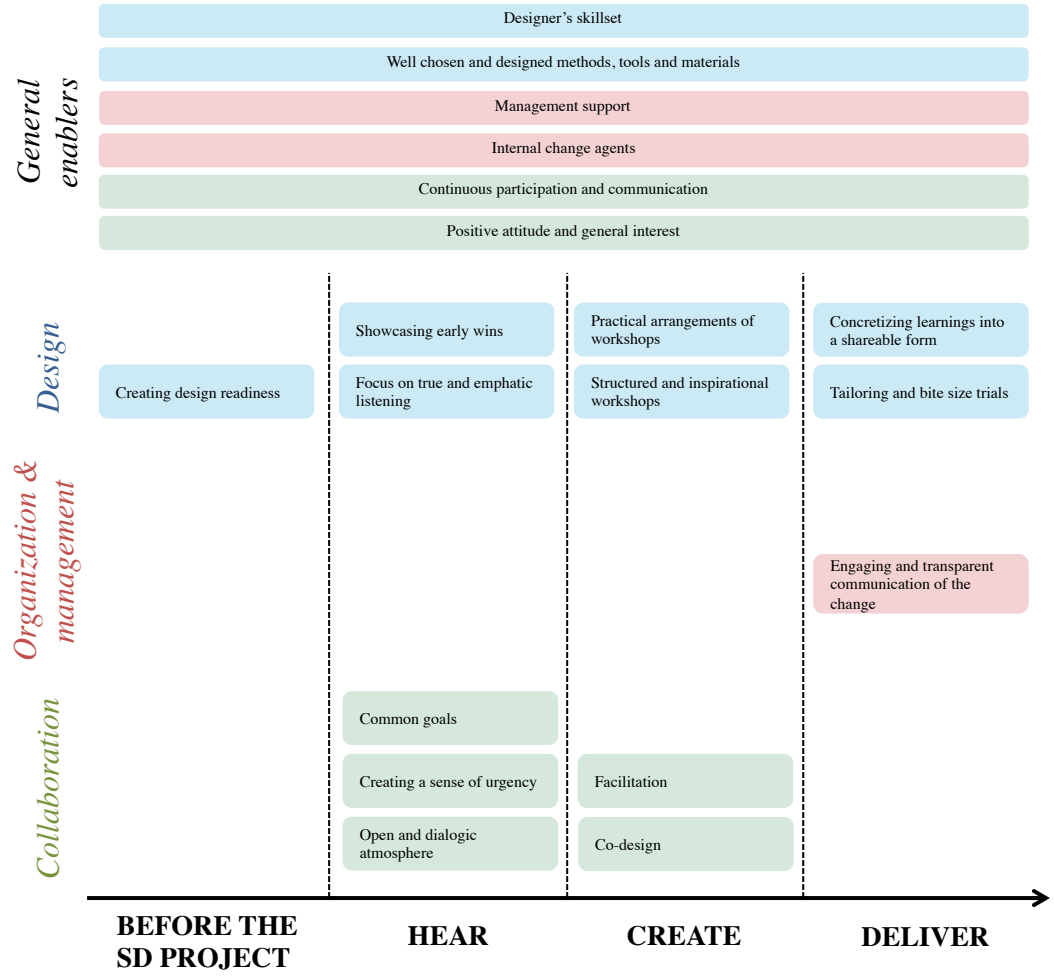

Figure 12 - Enablers during a service design process

Following the same reasoning as the previous chapter concerning challenges, the enablers of service design are analyzed from a process perspective utilizing the Hear-Create-Deliver process as a basis. The enablers identified from service design research have been categorized first based on the process phase they belong to and second thematically to the same categories as service design challenges (Design,

Organization and Management, Collaboration). Figure 12 pictures this classification. Subsequently, the identified enablers will be elaborated.

3.5.1. Before the service design project

Before a service design project can begin, it has to be procured. **Creating design readiness** within the procuring organization can, for its part, lower the threshold for procurement. (Kurronen, 2013) In practice, this implies explaining what (service) design is, what kinds of methods and mindsets it utilizes and how it is related to any given field (Honkonen, 2013). Organizing trainings and seminars can help embed design thinking to the minds of both managers and employees (Kurronen, 2013). "Pre-exposure" such as this is a considerable advantage in the remaining phases of the project, as the participants will already be familiar with the service design approach and some of the tools it employs (Hakio et al., 2015).

3.5.2. Hear phase

Based on service design research, the Hear phase features enablers that are related to collaboration and design.

The sooner a collaborative, **open and dialogic atmosphere** can be created among the project participants, the better. (Akama, 2009) The importance of an informal and inclusive working relationship, which allows participants to air concerns and talk about issues that make them nervous, suspicious or scared, cannot be overemphasized (Akama, 2009; Honkonen, 2013). Transparency and open communication are building blocks of authentic trust, which is badly needed especially if the client organization has little previous experience of service design (Lin et al., 2011; Akama, 2009; Junginger and Sangiorgi, 2009; Hakio et al., 2015). Other factors that may contribute to building a collaborative atmosphere include unofficial networks, roles from prior relationships (Hakio et al., 2015), as well as situations that strengthen the equal value and participation of all project participants (Lin et al., 2011; Tuononen, 2013).

While an open atmosphere enables the project participants to work together, **creating a shared sense of urgency** motivates them to do so (Lin et al., 2011). A feeling of shared purpose can be built, for instance, on experiencing the emotions and situations of the current user process (Steen et al., 2011), authentic user

comments (Kolmas Persoona, 2014) or a personal connection to the problems at hand (Tuononen, 2013). Sensitizing pre-tasks can help engage the participants on an emotional and visceral level (Kronqvist et al., 2013). As motivation, empathy and understanding the problems and wishes of the users are strongly linked (Kolmas Persoona, 2014), enough time should be allocated to relating to the user-centered goals underlying the service design project (Lin et al., 2011). Even change resistant persons may feel motivated, when they realize that their co-workers consider the project important (Tuononen, 2013).

Creating a shared sense of urgency is a fruitful opening move for agreeing on **common goals** (Hakio et al., 2015). Clear goals form the basis for target-oriented action (Junginger and Sangiorgi, 2009; Koskinen et al., 2013; Kolmas Persoona, 2014), and when the objectives are set together, the participants more likely commit to them (Koskinen et al., 2013). As a prerequisite for this type of collaboration, a common language should exist among the project participants (Hakio et al., 2015).

When it comes to the design-related enablers, the importance of placing the **focus on true and emphatic listening** stands out: service designers should internalize the experiences of the participants (including service users) before shifting to the search of solutions. (Tuononen, 2013) Similarly, the project participants should be given time to chew the plentitude of new information (Kolmas Persoona, 2014). Apart from creating a base for service solutions (Tuononen, 2013), thorough listening and asking questions help identify gatekeepers, roles and emerging conflicts (ibid.; Junginger and Sangiorgi, 2009) and make it possible to integrate the designed solution with previous experiences and results (Hyvärinen, 2015).

Due to the novelty of the service design approach, **showcasing early wins** can affect the latter phases of the project particularly positively (Junginger and Sangiorgi, 2009). Successes in the beginning of the project demonstrate the worth of the approach (ibid.), and may create opportunities for expanding the project scope, when properly communicated to the client organization (Vaajakallio et al., 2013). In the Hear phase, early wins could include, for instance, transformative and user-centered insights that go to the roots of the client organization (Junginger and Sangiorgi, 2009).

3.5.3. Create phase

The success factors of the Create phase lay equally within collaboration and design, while organizational and managerial enablers are still conspicuous by their absence.

According to Steen et al. (2011), successful service design projects apply collaborative design, i.e. **co-design**, opposing to only testing the pre-designed concepts with users and employees. The significance of end user involvement is widely emphasized in service design literature (e.g. Steen et al., 2011; Holopainen and Helminen, 2011; Hasu et al., 2011), yet the presence of employees is equally important: they possess content expertise, which ensures the feasibility of ideas (Mattelmäki, 2015a; New, 2008). The face-to-face interaction and equal roles among participants foster creativity (Parker and Heapy, 2006; Hakio et al., 2015) and enable the transfer of tacit knowledge (Tuononen, 2013). All in all, co-design generates more successful innovations and better cooperation than traditional methodologies (Steen et al., 2011), while simultaneously motivating and engaging the participants (Tuononen, 2013).

In order for co-design to succeed, **facilitation** and support from the service designer are required (Mattelmäki, 2015a). The designer should ensure that the discussion handles interesting topics and that issues crucial to the design are pondered (Vaajakallio and Mattelmäki, 2011). This can also partly be achieved by planning **structured and inspirational workshops**: target-oriented and meaningful action guides the participants towards key themes (Tuononen, 2013; Mattelmäki, 2015a). Then again, creating an inspiring situational setting with a mix of familiar and new or surprising elements can lead towards more creative solutions (Kronqvist et al., 2013). Workshops that by design encourage humor succeed more likely in maintaining the interest and attention of the participants (Lin et al., 2011). Finally, Tuononen (2013) takes a special note of the **practical arrangements of workshops**. Serving food and beverages as well as creating a pleasant atmosphere with music and pauses all give the participants an immediate return of investment for attending. This may bear a subconscious motivational effect on their actions during the workshop and even the rest of the service design project.

3.5.4. Deliver phase

During the Deliver phase, the enablers of service design are related to design as well as the organizational and managerial realm.

When implementing the designed service, the service designers can utilize **tailoring and bite size trials** to build ownership for the design. A rough and unpolished idea leaves room for employee customization: giving the employees a chance to hone and iterate the details of the service builds true engagement and feeling of control among them. (Lin et al., 2011) Moreover, small enough trials can be utilized as a tool for reducing change resistance (Lin et al., 2011; Junginger and Sangiorgi, 2009).

The second design-related enabler is concerned with disseminating the learnings and results of the service design project throughout the client organization. (Vaajakallio et al., 2013) Service designers should pay special attention to **concretizing learnings into a shareable form** – preferably both physical and digital – as otherwise the newly learned skills and mindsets easily remain a privilege of the project participants. Concrete material of the project facilitates the implementation of the service solution and acts as a tool for paving the way for future service design projects within the organization. (Mattelmäki, 2015a) In practice, the material can include e.g. detailed documentation of the work as well as instructions for applying the methods and tools (Hakio et al., 2015).

Finally, **engaging and transparent communication of the change** contributes to the implementation process (Bailey, 2010). The managers are responsible for spreading the knowledge of both the upcoming changes and the reasoning behind them (Tuononen, 2013). Employees should be encouraged to seize on the new ways of working, and the progress of the implementation should be visualized. Last but not least, the implementation gains momentum through communicating and celebrating the accomplishments of active employees. (Lin et al., 2011)

3.5.5. General enablers

Similarly as in the case of challenges, some service design enablers rather concern the whole process than individual phases of it. These six enablers equally represent all three thematic categories.

Both of the general collaborational enablers fall under the topic of involvement. First, a **positive attitude and genuine interest** towards the service design project and methodology greatly facilitate collaboration. (Hakio et al., 2015) Broadminded people, who participate due to their personal interest instead of management orders, and who are willing to believe in an unfamiliar way of working, are a key resource for the project. Second, **continuous participation and communication** maintain the orientation for development work and make it possible to cumulatively build common understanding. (Tuononen, 2013) The more activities the participants attend, the quicker they become confident and competent with the designerly way of working (Kronqvist et al., 2013). Furthermore, frequent meetings and discussions with the client organization keep the service designers updated about the situation within the organization, and improve the acceptance of the service solution (Akama, 2009; Piirainen et al., 2012). Simultaneously, they keep the process transparent to all parties (Junginger and Sangiorgi, 2009).

When it comes to the design-related enablers, several researchers (see e.g. Hakio et al., 2015; Mattelmäki, 2015a; Vaajakallio et al., 2013) highlight the importance of **well chosen and designed methods, tools and materials**. All three should be well-prepared, high quality, challenging and inspiring (Kolmas Persoona, 2014) in order to facilitate encounters in a stimulating environment (Mattelmäki, 2015a). The choice of methods should reflect the purpose of the project, as well as the participants involved (IDEO, 2011). As regards the tools, visual materials that are easily grasped lower the threshold of participation (Holopainen and Helminen, 2011). Concrete materials such as design game cards or 3D prototyping gear are great tools to think with (Hakio et al., 2015; Vaajakallio et al., 2013), and – when properly designed – leave room for creativity (Kronqvist et al., 2013). All in all, visual materials easily lead the discussion, and thus designing them should be taken seriously, and the outcomes tested before real use (Mattelmäki, 2015a).

The **designer's skillset** plays a key role in making the most of the methods, tools and project participants. Visualization skills are supplemented by agile or lateral thinking skills and the ability to facilitate, propose, listen, critique, guide and communicate. (Akama, 2009) Apart from concretely driving the project forward, these skills build the professional credibility of the designers in the eyes of other participants (Tuononen, 2013).

Finally, both of the general organizational and managerial enablers are related to the support that the service design project receives at the client organization. **Internal change agents** or advocates within the organization can have a great positive impact on the project by spreading the knowledge and belief in design among their colleagues (Vaajakallio et al., 2013; Tuononen, 2013). These pioneers usually possess some experience of service design (Tuononen, 2013) and can assist in finding the right people for the project (Junginger and Sangiorgi, 2009). Should they enjoy the trust of key decision makers, their involvement also simplifies sustainable development of ideas (Akama, 2009; Vaajakallio et al., 2013).

In addition to employee-level change agents, the service design project benefits from advocates within the company management, i.e. **management support** (Steen et al., 2011; Hasu et al., 2011). Managers, who encourage bottom-up innovation, set an empowering example to the employees (Bailey, 2010). According to Hasu et al. (2011), the companies in which managers support project-related innovating outside the official activities, gain the most from service design projects. All in all, it lies in the hands of managers to put the results of the project into action (Tuononen, 2013).

3.6. BRIDGING THE CHALLENGES AND THE ENABLERS

The two previous chapters have discussed the challenges and the enablers of service design as separate spheres. This chapter takes a bird's eye view of these two aspects as a whole. First, the chapter discusses the thematic distribution of the factors, and then, it ponders on the spread of the factors along the Hear-Create-Deliver process.

The thematic distribution of the challenges and the enablers provides an interesting viewpoint of the impact that the three themes may have on a service design process. The amounts of challenges and enablers in each thematic category have been summarized in Table 3.

Table 3 - The thematic distribution of challenges and enablers

	Challenges	Enablers
Collaboration	8	7
Design	8	9
Organization & management	9	3
TOTAL	25	19

Based on Table 3, it seems that collaborative and design-related factors cause problems and prevent them quite equally. Instead, organizational and managerial factors more likely hinder than enable service design. This imbalance may result from several issues. First, most organizations have not yet accommodated themselves to the service design methodology (Kurronen, 2013). Thus, they may genuinely struggle with adapting to the novel ways of working, and the enabling courses of action have not yet had the time to develop. Second, service design research is written from the perspective of service designers, not the client organization. Thus, the impeding role of the organization may unintentionally be underlined. Third, the research on organizational and managerial enablers is still in its infancy. Hence, organization and management may appear the weakest link in the picture, though in reality, positive factors may simply have remained unidentified.

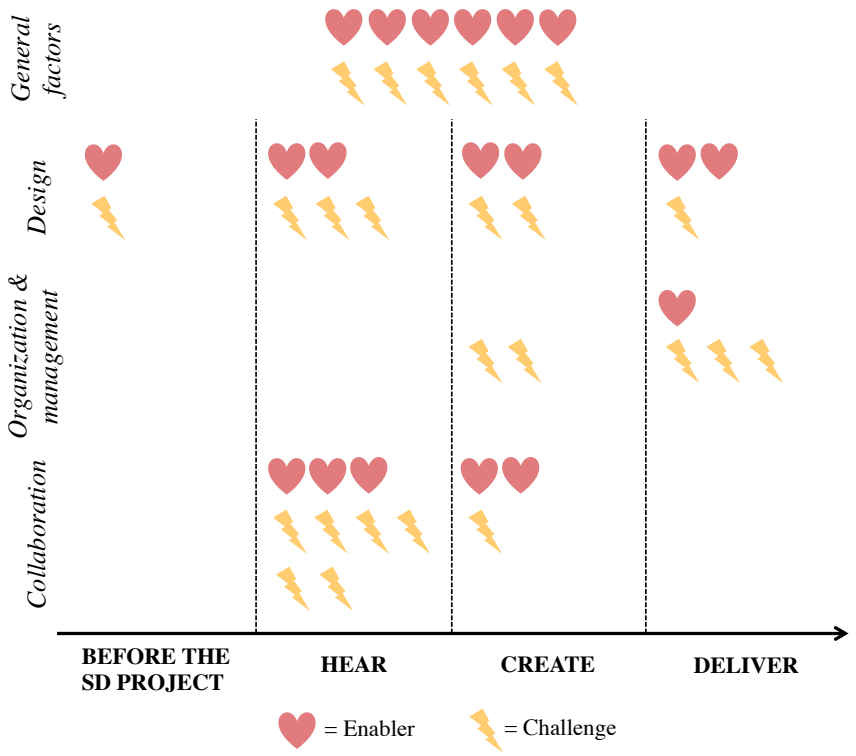

Figure 13 - The distribution of challenges and enablers along the Hear-Create-Deliver process

The thematic distribution of challenges and enablers along the Hear-Create-Deliver process (see Figure 13) provides another interesting perspective on service design. Both challenges and enablers seem to concentrate in the beginning of the process, and they chiefly relate to collaboration. This is hardly surprising, as one major object

of the Hear phase is to build a working relationship between the project parties (Akama, 2009) – and this relationship is the basis of the whole process. However, the considerable amount of potential challenges in the beginning of the process should be noticed: unaddressed challenges will inevitably move forward to the latter phases of the process and cumulate into even more complex problems. In the context of collaboration-related challenges, lack of trust could, for instance, end up preventing efficient sharing of information between the project participants, which could lead to poor cooperation and a biased service solution. Thus, the importance of early interventions should not be underestimated.

Even though organizational and managerial issues seem to cause problems along the whole service design process, the further the process proceeds, the larger role they seem to play: as the launch of the designed service approaches, the responsibility of the concrete actions is transferred more and more to the client organization. However, based on Figure 13, the organizations seem to possess very few tools or methods that would help them tackle the final stages of the service design process. Hence, service designers might be advised to closely follow the progress of the situation or even proactively discuss the implementation plan with the managers.

When it comes to the design-related issues, both the challenges and the enablers are quite equally represented in all process phases. This could possibly indicate that design runs through the whole service design process like a backbone: certain process phases may emphasize the other thematic categories, but the importance of design-related factors should never be underestimated. In addition, design is the territory that the service designers can most straightforwardly affect.

Finally, despite the pigeonholing approach utilized in this thesis, one should keep in mind the interconnectedness of service design challenges and enablers. No factor or thematic factor group can be analyzed in isolation, and thus, the effects of single factors may prove difficult to assess. Furthermore, the magnitude of the impact may vary: in one project, internal change agents may have a tremendous positive effect on the project, while in another case, they may be overpowered by a hierarchical organization structure, whereupon their impact remains relatively low. Altogether, analyzing the causes and effects of service design challenges and enablers is a complex task, and does not fall under the scope of this thesis. However, the existence of intricate connections between the factors should be borne in mind to avoid making oversimplifying assumptions.

3.7. SUMMARY OF THE LITERATURE REVIEW

This chapter summarizes the findings of the literature review in the same order in which they have been discussed earlier in this section.

Service design is a young, design-derived field of practice, which emerged in the shift of the 20th to the 21st century. Its emergence was greatly affected by three significant changes: the shift of focus from products to services, the evolving role of design, and the rise of user-centeredness. To this day, no clear consensus exists of the definition of service design, and in practice, the methodology is often confused with design thinking or innovating services. Indeed, service design strongly builds upon the expertise of other fields, and thus, it sometimes resembles more a platform than a field of its own. The efforts to define service design have generally resulted in one-sided or crude descriptions; either a compact definition without proper background has been introduced or the approach has been described in full length without coming to any clear conclusions.

Table 4 - Service design characteristics and their descriptions

Characteristic	Description
User-centered	Highlighting empathy for user needs and problems as a perspective for designing better services.
Visual methods and prototyping	Utilizing methods that capture services visually in a tangible form, i.e. customer journeys, blueprints or design games. Evaluating, which parts of the service deliver value through prototyping.
Holistic	Understanding every aspect of the service ecosystem. Shifting focus between the big picture and the material and digital details.
Multidisciplinary and collaborative	Facilitating collaboration between stakeholders, representatives of the client organization and/or service users that have different backgrounds and know-how.
Complexity	Tackling open-ended and wicked problems without a clear brief.
Iterative	Continuously reframing the problem and the solution in order to learn and to test the viability of the ideas as soon as possible.
Heterogeneous process	Operating without a strict pre-determined process, but tailoring the process according to the requirements of the case at hand.
Arranges entities into sets of relations	Organizing the way the building blocks of the service (e.g. people, material components, digital systems) operate in relation to each other.
Useful, usable and desirable solutions	Designing services that fulfill their functions, are easy to use, and meet the needs or wants directed to them.

This thesis takes a step towards a coherent definition of service design by basing the definition on the characteristics that are most often related to service design in the existing literature of the field. Table 4 summarizes the most significant characteristics identified.

These characteristics build a holistic image of service design: they describe the actors involved (User-centered; Multidisciplinary and collaborative), the ways of working (Visual methods and prototyping; Arranges entities into sets of relations), the process (Holistic; Complexity; Iterative; Heterogeneous process) and the outcomes of service design (Useful, usable and desirable solutions). Furthermore, they are based on service design research from both the design tradition and the tradition of service management and marketing. The identified characteristics can be utilized to define service design as *"a design-derived field of practice, which aims at creating useful, usable and desirable service solutions to wicked and complex problems by pursuing a holistic understanding of the whole service ecosystem. Service design processes are heterogeneous, but design the multiple service components and their relations by utilizing a user-centered, multidisciplinary and collaborative approach together with visual design tools and prototyping"*.

According to this definition, service design is always a process, and yet, no two identical processes can exist. Nevertheless, unifying process phases among service design projects can be identified. In this thesis, the Hear-Create-Deliver process model represents these phases: Typically, a service design process begins with understanding the needs, problems and wishes of service users and the client organization (Hear). The gathered knowledge is utilized as a basis for iterative ideation and rapid prototyping (Create), which enable prioritization of the concepts. Finally, the chosen service solution is piloted, implemented and launched (Deliver).

In the course of a service design project, several factors can either hinder or support the process. These factors can be related to design, collaboration, or organization and management, and can concern either mostly a single process phase or the whole service design process in general. A total of 25 challenges and 19 enablers can be identified to affect a service design project, and based on them several conclusions can be drawn. First, the beginning of a service design process is heavy on challenges, which particularly relate to collaboration. In the latter phases of the process, the focus shifts to organizational and managerial hindrances. Second, unless the challenges are tackled, they will move forward in the process and cause larger

problems later on. And third, collaboration and design can relatively equally act either as promoters or inhibitors of service design. The organizational and managerial side, however, seems to lack enablers, which indicates that the area more likely hinders than enables a service design process.

4 EMPIRICAL FINDINGS

This section presents the empirical findings of this thesis and thus, focuses on the participant perspective of service design. The first chapter discusses the most significant characteristics of service design according to the interviewees, while the second chapter presents their viewpoint of the service design process. The third and the fourth chapter focus on the detected challenges and enablers respectively, and the fifth chapter ponders on these findings as a unified whole. The section ends with a concluding chapter, which summarizes the findings of the whole section.

Within this section, direct quotations are utilized to animate and elaborate the text. These quotations have been translated from Finnish to English by me, and they are marked in the text as follows

"Example quotation" (Interviewee X)

In order to protect the identities of the interviewees within the rather small project team, the quotations are left anonymous and even the positions of the interviewees are excluded. The ordinal numbers of the interviewees are, however, enclosed to enable connecting quotes and interviewees across chapters.

4.1. WHAT IS SERVICE DESIGN?

This chapter discusses the viewpoints of the interviewees regarding service design and its most significant characteristics. The chapter begins with a brief overview of the previous experiences that the interviewees possessed of service design, as these experiences affect their current impressions. Second, the chapter proceeds to the findings related to the nature of service design, which are, at the end of the chapter, compressed into a participant-based definition of service design.

4.1.1. Experience of service design

In the beginning of each interview, the interviewee was requested to describe his/her previous experience regarding service design. Most participants assessed that they had some experience of the topic, while two participants stated that they possessed plenty of experience and other two considered themselves new to the territory.

> *"Well, we've had those (service design projects), but whether they have been talked about purely with the title 'service design' or with some other words has varied. But I've been involved in similar projects."(Interviewee 2)*

> *"I've been involved in many kinds of service design projects." (Interviewee 7)*

> *"I've been involved fairly little, as I'm from the IT unit." (Interviewee 4)*

Whether these past experiences would qualify as service design according to the characteristics-based definition presented in chapter 3.2.3 is not relevant for the topic of this thesis and cannot be determined based on the brief descriptions provided by the interviewees. The interviewees themselves seemed to share a general consensus that the vague concept of service design prevents them from accurately evaluating, whether the projects they have been involved in can be called service design projects or not. Indeed, many of the less experienced interviewees especially emphasized that they are not certain of what service design is or how it could be defined.

> *"I don't know what you mean by a service design project…" (Interviewee 3)*

> *"The whole concept of service design is to me… like… I wonder what it even means. It's not that clear."(Interviewee 6)*

The lack of a unified vision of service design was apparent across all interviews. However, it became particularly clear during the discussions regarding the essence and characteristics of service design. These results are presented in the next sub-chapter.

4.1.2. Service design characteristics

The essence and the most important characteristics of service design were discussed as the last theme of the interviews, as I suspected that the topic could prove challenging to grasp, and that conversing about the case project first could help. This assumption was proved correct, as the interviewees found it difficult to formulate their answers and sought inspiration from the case project.

> *"It (service design) goes to the category of terms, which are easy to use, but if you really start to ponder on it and open it up, you really have to wonder, what it truly is." (Interviewee 2)*

The characteristics or factors that the interviewees associated with service design are summarized in Table 5. The characteristics have been formed by grouping the

original answers of the interviewees based on their thematic similarities. On the grounds of Table 5 it seems that, indeed, no common or unified vision of service design exists among the participants of the project team; only one characteristic, customer-centeredness, was mentioned by more than half of the interviewees. In addition, the previous service design experience seems to have affected the answers: The more experienced interviewees (7 and 8) concentrated on more high-level factors, such as challenging existing beliefs or all-inclusiveness, while the others focused on more tangible factors (i.e. prototypes or the participants). Next, all the characteristics are briefly elaborated.

Table 5 - Empirical service design characteristics

Characteristic	Number of interviewees	Interviewees
Customer-centered	7	I1, I3, I4, I5, I6, I7, I8
Diversity of project participants	3	I3, I5, I6
All-inclusive	3	I6, I7, I8
Iteration through prototyping	3	I3, I4, I5
Usability and user experience	2	I1, I2
Creating new needs to customers	1	I2
Challenges existing beliefs	1	I8
Standardized process	1	I5
Design techniques	1	I7

For the interviewees, the single most significant and evident service design characteristic was **customer-centeredness**. According to the interviewees, service design takes the customer point of view as the starting point of the project, which was considered both novel and increasingly important. One interviewee referred to the needed shift in thinking as replacing the traditional system-centered view with a customer-centered view. Furthermore, service design was seen to include deeper interaction with customers than traditional methodologies, and to supplement the data from internal sources with insights from this interaction.

> *"Well, what first comes to mind is that we really - - get to more deeper interaction with customers. That we don't just analyze some feedback that*

> *we have received but in addition to that, really question things and converse, and try to understand the need of the customer and the situations, where it materializes." (Interviewee 8)*
>
> *"What we did here was that we took the customers onboard." (Interviewee 1)*
>
> *"Here we start with the business needs and the needs and motives of the people. We don't start by thinking, how can we get our system to yield to this." (Interviewee 7)*

In addition to the customer perspective, three interviewees found that in service design, the **diversity of the project participants** is highlighted. In practice, this mostly referred to the inclusion of employees with different backgrounds or employees from multiple layers or units of the organization (i.e. internal multidisciplinarity). However, one interviewee also remarked that service designers provide the client organization with a fresh outsider view of the situation.

> *"It (the service) is not just a product of one designer, who builds it himself in some cubicle, but customers are involved, and then we have internally people from many units involved as much as possible - - people with diverse backgrounds." (Interviewee 3)*
>
> *"I've been used to always stare the same screen, so it is nice to get some fresh outsider view." (Interviewee 6)*

On a broader level, three interviewees referred to service design as an **all-inclusive** field. According to them, service design encompasses at least three aspects: customers, business and technology. Thus, all the outputs of the project (e.g. customer profiles or customer journeys) always take their context into account.

> *"Service design should include all those together: business, people and the technical enabling factors" (Interviewee 7)*

When it comes to the methods or ways of working of service design, three interviewees emphasized the significance of **iteration**. The iterative development was mostly seen to progress **through prototyping**, and the interviewees stated that the prototypes should be tested already in the early phases of the service design project. On the other hand, interviews and workshops were also considered as promoters of iteration.

> *"Iteration, that the plan changes along the way, that we develop it based on the feedback we receive." (Interviewee 3)*
>
> *"When you get to the phase, where you build prototypes, you test them in the early stages and then you can quickly make decisions based on them." (Interviewee 5)*

Two interviewees mentioned **usability and user experience** as the objectives of service design. From the customer point of view, these ambitions were seen to appear as "easiness", which, in the online world, could be upgraded through layout design. These comments together with the quote below indicate that the (service design) projects these interviewees have been involved in have had a clear focus on user-centered design of digital interfaces.

> *"You strive to make things more usable - - well, the easiness from the customer point of view, that's one of those core issues." (Interviewee 2)*

The four remaining service design characteristics were each mentioned by only one interviewee. Thus, they should be treated somewhat cautiously to avoid drawing general conclusions from entirely subjective comments.

One participant considered service design to effectively **create new needs for customers**. According to him, companies can utilize service design as a medium for "selling" novel behavioral patterns and hence, changing the behavior of customers. On the other hand, another participant remarked that service design actually **challenges existing beliefs** within the organization itself. These beliefs could be related to, for instance, customers or the functionality of the existing services. These differing views interestingly reflect the broad and multi-level impact that service design might have.

> *"Challenging existing beliefs. That and service design in general we should really do much more at (the telecom operator)." (Interviewee 8)*

The last two characteristics that the interviewees mentioned were a **standardized process** and **design techniques**. By a standardized process, the interviewee referred to service design always taking into account certain issues, such as the need for the service, the objectives of the project, and success indicators. Design techniques, then again, were related to concretizing intangible matters with visualizations.

> *"It's a standardized process - - you take into account certain things: you try to understand the need, then there are the objectives and the success indicators" (Interviewee 5)*

> *"Different methods, in which the core is that you somehow concretize things already in very early stages." (Interviewee 7)*

On the whole, the interviewees seemed to neither agree nor disagree with each other; the characteristics associated with service design varied fairly much between interviewees, but they did not conflict with each other. This scattered view probably reflects the unestablished status of service design within the working culture of the telecom operator and more particularly, the project team.

4.1.3. Participant-based definition of service design

As the interviewees found it considerably difficult to specify, what differentiates service design from other project methodologies, or what characteristics service design involves, they were not further pressed for a definition of service design. Thus, the participant-based definition of service design formulated in this sub-chapter solely relies on the characteristics presented in the previous sub-chapter.

The single obvious characteristic to include in the participant-based definition of service design is customer-centeredness, which was acknowledged by all but one project participant. However, an equal sign cannot be placed between customer-centeredness and service design. Hence, the participant-based definition is founded on the characteristics, which were observed by at least two project participants. Within these preconditions, service design can be defined as follows:

> *Service design brings together employees from different organizational levels to develop a new or an existing service by applying a customer-centered mindset and iterative prototyping. Service design aims at superb usability and user experience, and considers the service all-inclusively from multiple angles.*

This definition reflects the practice-based experience that the interviewees have of service design. It describes the actors, methods and objectives of service design on a basic level, yet it does not take a stand on the wider context or background of service design. In addition, the definition raises the employees of the organization to an active role instead of highlighting, for instance, the significance of service designers.

4.2. SERVICE DESIGN PROCESS

This chapter presents the empirical findings related to the service design process. To begin with, the chapter discusses the service design process of the case project, which is then utilized as a basis for constructing a general participant-based process model of service design.

4.2.1. The process of the case project

In order to form a foundation for discussing the challenges and enablers of service design, the interviewees were requested to describe the process of the case project from their own perspective. The objective was to clarify, when did the participants feel that the project began, which actions or events did they take part in, and when did the project end for them. The level of detail of the description was left for the interviewees to decide.

As the interviewees had participated in different events and focused on different angles of the project, the process descriptions of the case project varied. However, three basic types of descriptions were identified. Figure 14 illustrates these types as tracks, which do not represent individual answers but combinations of descriptions. Description type 3 was constructed based on four process descriptions, while types 1 and 2 both rest on two descriptions. Next, the three description types are elaborated.

Participants of type 1 took actively part in the beginning of the service design project, and thus, built the foundation for the later actions. These participants referred to the workshops, interviews and meetings on an overall level, which indicates that they were not central actors in these phases; they did participate in some way, but not especially actively. However, these participants shared an interest in the results of the project, and have extensively utilized them in their everyday work.

> *"For me, it (the project) started in spring, when we constructed the roadmap so that we could vaguely see, which things we should accomplish on a high level." (Interviewee 8)*

> *"I utilize the behavioral profiles in other situations. I tell that hey, we've got these types of things, do you remember these?" (Interviewee 8)*

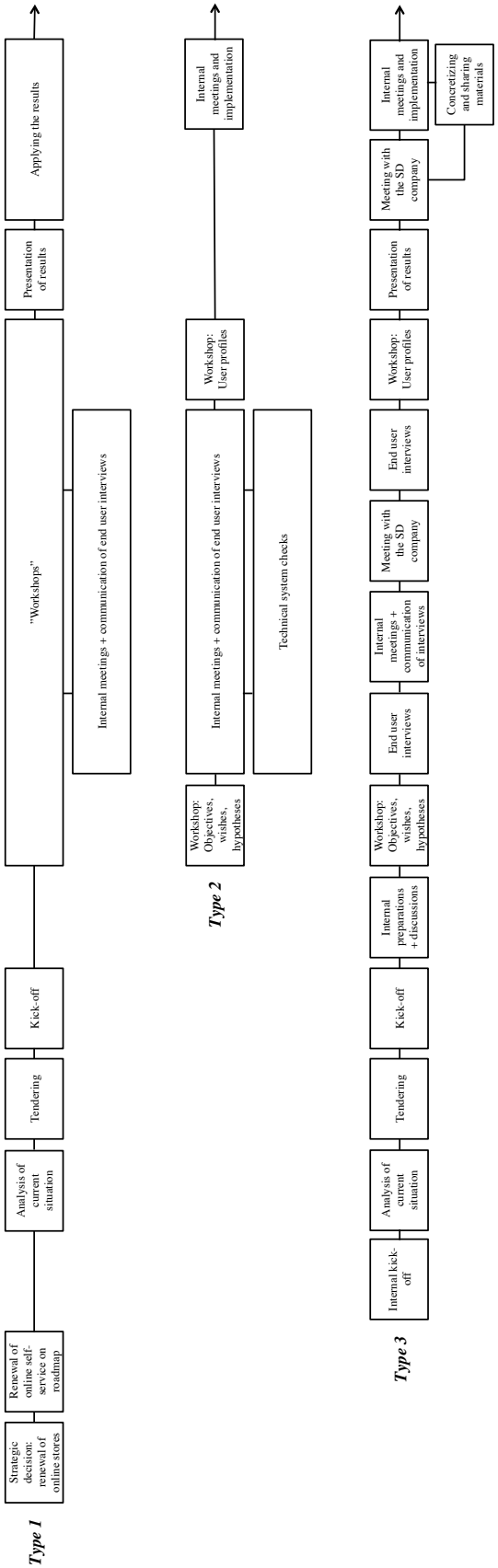

Figure 14 - The three types of process descriptions

Participants of type 2 attended two workshops, but apart from that, were rather disconnected from the joint project actions. The role of these participants was more a supportive one, as they gathered background information, performed system checks to ensure the technical feasibility of the hypotheses, and took part in the internal communication of the telecom operator. Despite their limited influence on the results of the case project, these participants play an important role in the implementation of the new online self-service, and consequently, the translation of the project results into reality.

> *"There have been some meetings, but I did not attend those. Then there have been discussions on the corridors." (Interviewee 6)*
>
> *"Well, in a sense, my part is just beginning, as we are starting the technical implementation." (Interviewee 4)*

Participants of type 3 were the most active employees during the case project. From their perspective, the case project began with internal preparation and tendering, which were followed by a myriad of actions, events and communications. Most of these participants took part in at least one end-user interview during the project, and currently, they are involved in the implementation of the project results.

> *"From my point of view, the project started from us recognizing the situation in which the area in question stalls pretty badly." (Interviewee 2)*
>
> *"In between (the workshops), I've to some extent taken part in our internal workshops." (Interviewee 1)*
>
> *"Then there were those interviews - - we did some mapping of the target group then, I was involved in that - - then we drew the wire frames…" (Interviewee 3)*

Whether or not the identified description types represent typical participant roles in a (service design) project cannot be concluded based on this data, and unfortunately, no previous research regarding the topic exists. Nevertheless, understanding the variety of players involved in a service design project can be considered novel as such: the current service design literature mostly refers to project participants either as a homogeneous group or through their organizational roles (e.g *managers* or *employees*).

Based on the three description types, the complete process of the case project can be described from the perspective of the project participants: The service design project began with a completely internal phase, which focused on determining and analyzing the current state of the online self-service. During this phase, the need for outside help was acknowledged and thus, a tendering process was carried out. As a result of the tendering, the service design agency joined the project and arranged several meetings, interviews and workshops. Simultaneously, internal meetings and supporting background operations were organized, and the progress of the project was effectively communicated to the project participants. Finally, the service designers presented their outcomes of the process, and opted out of the project as per agreement. The detailed design and implementation of the online self-service was purposely left to the telecom operator, yet the knowledge and the mental framework created together with the service designers has been and will be utilized as a basis of these later developments.

In the next chapter, this participant-based description of the case project will be applied in creating a higher-level process model of service design.

4.2.1. Participant-based service design process model

When requested to divide the service design process of the case project into phases, the project participants focused on rather detailed and practice-oriented divisions instead of drawing general guidelines of the process. This could stem from, for instance, a lack of theoretical knowledge of service design, or a small amount of previous service design projects to which to compare the case project.

> *"Then there were these workshops… and then these customer interviews, they are a phase of their own." (Interviewee 1)*

Due to the detailed level of the phase divisions, the higher-level service design process model cannot be directly based on the comments of the interviewees. Instead, the model is founded on the description of the case project, which was presented at the end of the preceding sub-chapter. Next, the constructed process model (see Figure 15) is discussed in more detail.

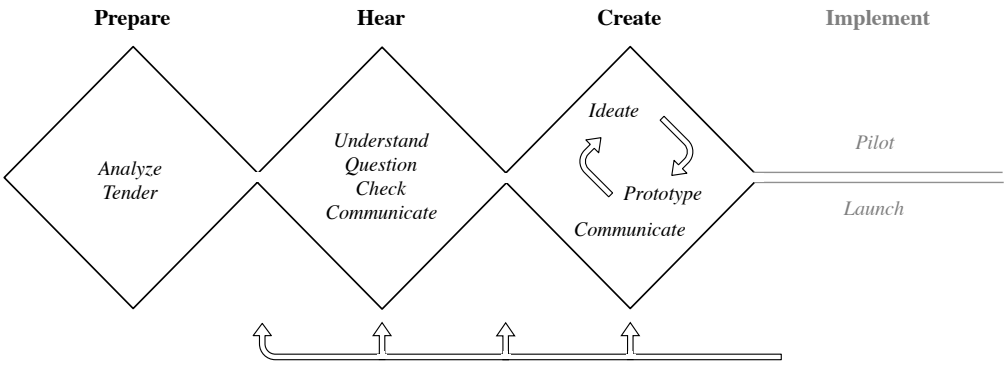

Figure 15 - Participant-based process model of service design

Based on the case project, it seems evident that for the project participants, a service design project begins long before the service designers join the process. Internal analyses, system checks and a tendering process importantly affect the project, as they build the foundation for the latter parts of the process. In the participant-based model, these preparatory activities are grouped together as the Prepare phase.

After the Prepare phase, a combination of interviews, meetings and workshops follows. These activities form a repetitive pattern of creating hypotheses, visualizing them into prototypes, interviewing end-users with the help of the prototypes, discussing the findings, and further improving the hypotheses. This chain of actions represents one loop of the Hear and Create phases. In the case project, these two phases were especially intertwined, as the described chain of actions was carried out a couple of times. Generally, the actions that belong to the Hear phase are related to understanding customers, questioning existing assumptions, checking technical possibilities, and communicating findings within the project team. The Create phase, then again, comprises activities such as ideating, visualizing prototypes, and communicating during and between workshops.

Not much can be stated regarding the further progress of a service design project, as the interviews for this thesis were carried out right after the service design company presented their findings. However, from the participant point of view, the case project is still ongoing, as the online self-service has not yet been piloted or launched. To portray these activities, an Implement phase is included as the last phase of the process model. In Figure 15, this phase is colored grey to distinguish it from the completed phases.

In the following chapters, the participant-based process model of service design is utilized as a basis for analyzing the challenges and the enablers observed by the project participants.

4.3. CHALLENGES IN SERVICE DESIGN

This chapter presents the challenges that the participants of the case project encountered during the service design project. Following the structure of its counterpart in the literature review, the chapter elaborates the challenges in the order of their appearance by utilizing the participant-based service design process model as a basis. Figure 16 summarizes the challenges discussed in this chapter.

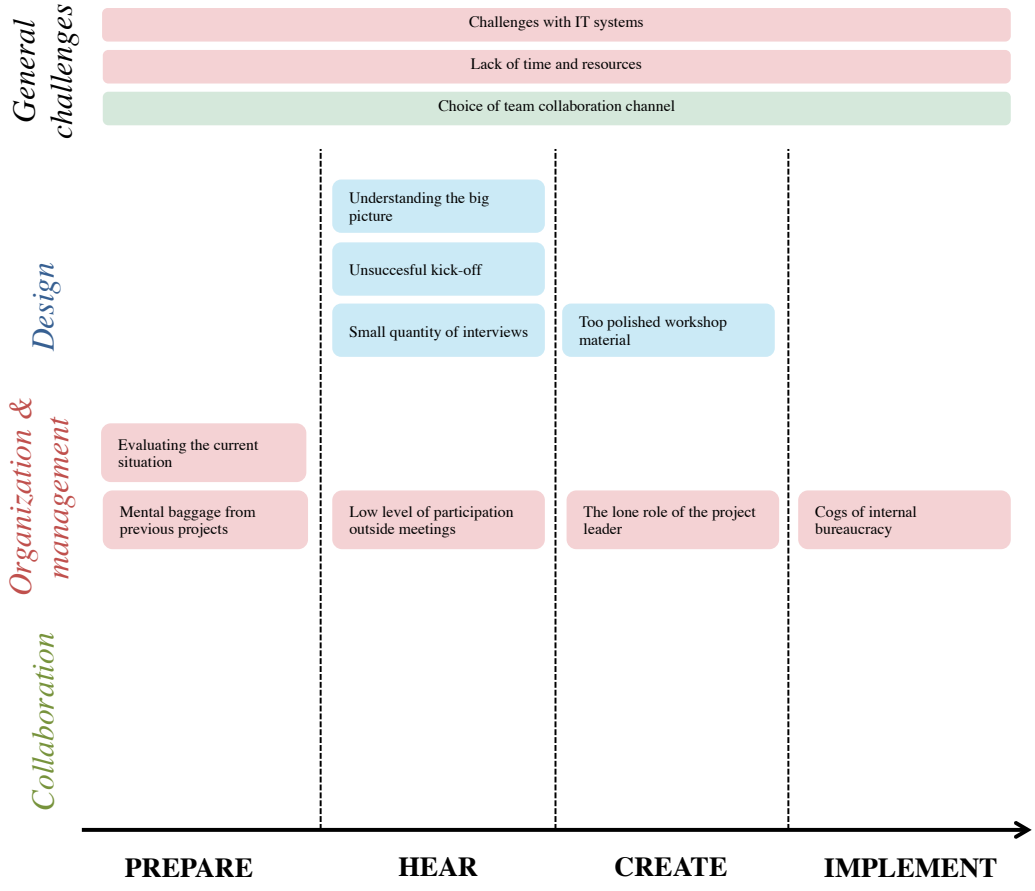

Figure 16 - Challenges of service design according to participants

4.3.1. Prepare phase

Based on the interviews, the Prepare phase includes two obstacles that both belong to the category of organization and management. First, **evaluating the current situation** of the online self-service proved challenging, as the necessary data was not readily available, and the processing of it required considerable resources. Furthermore, even though the data was eventually gathered, some employees found it problematic to understand the then state of the self-service.

> *"Analyzing the current state was partly very troublesome. People had to – got to – spend really much time in that." (Interviewee 8)*

> *"Perhaps they could have somehow broader opened it up, or explain the current situation through some real examples." (Interviewee 2)*

In addition to the practical challenges with data, a couple of participants mentioned that at first, **mental baggage from previous projects** negatively affected their feelings regarding this project. The preceding unsuccessful online renewals troubled the participants until they learned that the development of the online self-service would be launched with a customer-centered and new-to-the-company method.

> *"I had some worries, because I remember the previous project around online self-service and that was a really big job, really terribly big." (Interviewee 1)*

4.3.2. Hear phase

In the Hear phase, most of the challenges related to design, and one to organization and management.

The participants denounced the **kick-off meeting** of the case project as **unsuccessful**, as it did not inspire them, and the roles and motivation level of the service designers remained vague. Luckily, the disappointment was discussed with the service designers, and thus, it did not shade the remaining phases of the project. Nevertheless, the uninspiring start restrained the initial excitement among the project participants.

> *"I remember that in the first workshop I was a bit surprised that it was not so interactive, but more of a presentation, and I got worried, because it was not so inspiring." (Interviewee 8)*

Perhaps due to the problematic kick-off meeting, several participants considered it challenging to **understand the big picture** of the project. According to them, the beginning of the project lacked a clear explanation of the new mindset, and thus, the objectives and the core idea behind behavioral profiling remained ambiguous. In addition, a few participants felt uncertain about the level of detail to which the hypotheses and prototypes were supposed to be brought for the interviews.

> *"For me it was perhaps in the beginning - - hard to understand what it all was about. This might result from me not having participated in a project of this kind, where we would have made these profiles. So it was perhaps somewhat vague." (Interviewee 3)*

> *"I pondered on which things we should test, or which things are significant and why." (Interviewee 7)*

When it comes to end-user interviews, the **small quantity of interviews** confused some participants. These interviewees shunned the idea of relying on such a limited sample (12 interviews), even though they found the insights from the interviews more than satisfactory.

> *"The sample was in a way quite small… How can we trust it? That if these exact people say something… does that cover, you know, or can we consider it as the truth?" (Interviewee 3)*

The sole organizational and managerial challenge in the Hear phase was the **low level of participation outside meetings**. By this, the interviewees referred to employees not taking the time to watch the recordings of the interviews or read the summaries of them. The project leader did encourage participation by presenting experiences and insights from the interviews to project participants, but unfortunately, this interaction remained rather one-sided.

> *"In one situation I did feel that people did not have enough time to put their mind into the material. So it came as a given; (the project leader) explained it and then the others said 'well well, okay, yeah'." (Interviewee 8)*

4.3.3. Create phase

According to the project participants, the Create phase featured one design challenge and one organizational and managerial challenge.

On the design side, one interviewee considered the **workshop material** of the last workshop **too polished** for the project participants to constructively grasp. The project participants treated the material as if it was finished, and thus, the potential of developing the material further was somewhat overlooked.

> *"I think that that (workshop) was strategically a bit poorly timed and formed, because I noticed that people here considered it as the final report." (Interviewee 7)*

The organizational and managerial challenge, then again, was related to **the lone role of the project leader**. Even though the leader was considered to have managed the project extremely well, the vulnerability of project did concern a few interviewees. Moreover, the project leader lacked a person with whom to discuss and plan the progress of the project.

> *"It (the lone role) might not be a good thing. Now it was good, because (the project leader) has taken care of his role so well, but in theory there should be more people. It would probably ensure the quality, or at least reduce the risk." (Interviewee 8)*

> *"I noticed that I would have needed another person from the company, who would have concentrated on the work in the same way as I did, because I was quite alone with it all here."*

4.3.4. Implement phase

As the case project did not include a proper Deliver phase, only one challenge related to this phase was mentioned in the interviews. At the time of the interviews, this challenge had not yet materialized, but the interviewees were afraid that it might shortly become topical. The concern was that internal conflicts or collisions of interest might overpower the great outcomes of the project, i.e. that the results may get clogged in the **cogs of internal bureaucracy**.

> *"It's going to be interesting to see that, now that we are again in a pretty familiar critical point, that can we make such decisions that we don't again create too rigid limitations regarding what can or cannot be done - - if the counter-argument is that this would be hard to implement in the system, will it override the fact that it would still be a good thing to do." (Interviewee 2)*

4.3.5. General challenges

According to the interviewees, three factors hindered the progress of the service design project during its whole duration. One of these obstacles was related to collaboration, while the rest concerned organizational and managerial issues.

The choice of the team collaboration channel proved a hindrance to the interaction between the project participants and the service designers. The participants were accustomed to use another channel in their daily work, and hence, the utilization rate of the project channel remained low. Furthermore, a few participants mentioned that in the beginning of the case project, the project channel featured no interesting content, which discouraged them from returning to the channel later on.

> *"In theory, it is a good thing to create a tool for communication, but we've got so many of them that it is a challenge." (Interviewee 8)*

> *"I think I've signed in there once, checked out what is happening, and there were maybe two comments there. And after that I have not signed in. So my utilization rate has remained pretty low." (Interviewee 6)*

On the organizational and managerial side, nearly all interviewees mentioned that they suffered from **lack of time and resources** during the project. Several concurrent projects led to situations, in which the participants were forced to prioritize other projects over the case project. However, as a silver lining, the motivation level of the participants was high; they were intrigued by the new methods and would have gladly involved themselves more in the case project.

> *"There were many projects going on close to me, so there were challenges in time management. It might then be that you don't find time to participate in everything." (Interviewee 1)*

> *"Time has been the challenge, due to which I have not been able to participate as much as I would have wished to." (Interviewee 4)*

Finally, one interviewee encountered **challenges with IT systems** during the case project. The IT systems define the technical feasibility of service ideas, but gathering all necessary data for feasibility analysis proved troublesome.

4.4. ENABLERS OF SERVICE DESIGN

In this chapter, the empirical enablers of service design are discussed (see Figure 17). The order and the structure of this chapter are equivalent to the previous chapter in order to enable effortless comparison.

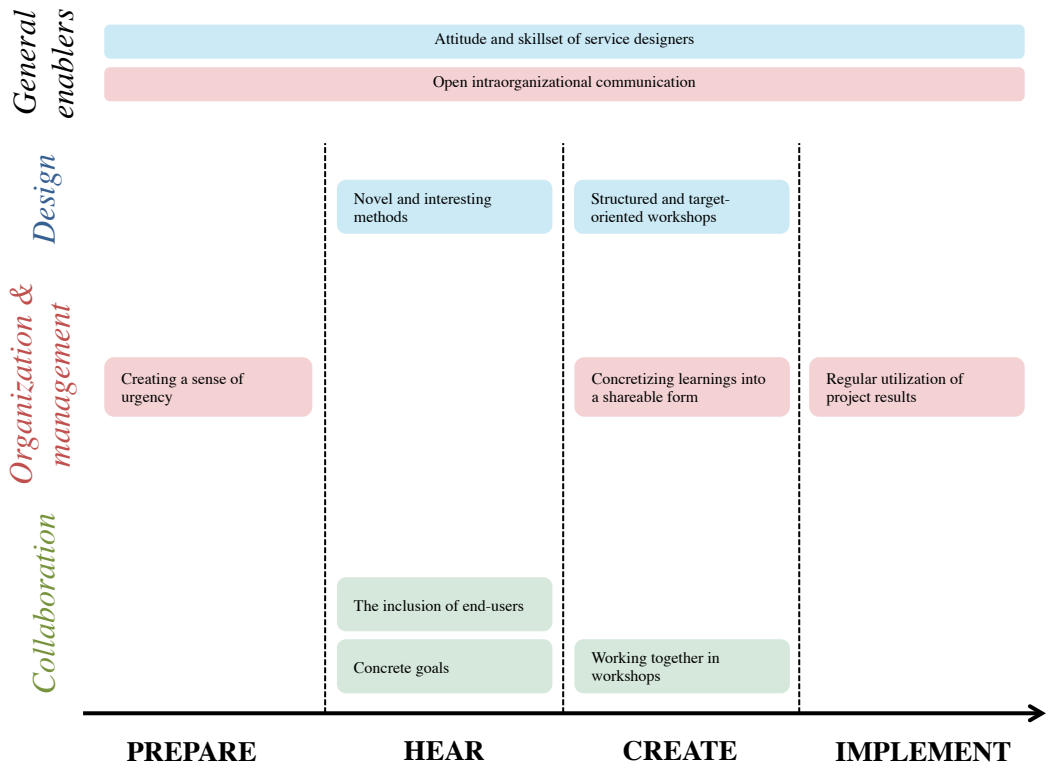

Figure 17 - Enablers of service design according to participants

4.4.1. Prepare phase

According to the interviewees, **creating a sense of urgency** greatly promoted the planning and the preparations of the service design project. Manager level understanding of the significance of both the renewal and the need for outside help were considered to have put the project in motion.

> *"There has been a clear will to do this project all the time - - generally the fact that we have wanted to push the self-service forward and do things differently than before, that has been important." (Interviewee 8)*

4.4.2. Hear phase

In the Hear phase, the enablers were considered to relate to collaboration and design.

Most of the interviewees especially praised **the inclusion of end-users** in the process. The contextual interviews allowed a novel form of deeper interaction between the project team and the customers, and the presentation of concrete yet unfinished ideas in the interviews proved a promoter of iteration. In addition, both of these factors contributed to establishing and understanding the customer-centered mindset.

> *What I thought was really great was that we really had the end user involved, I mean real users involved, and that the profiles were created specifically based on them." (Interviewee 1)*

> *"We had direct conversations with the customers. It was really interesting to be a part of those and to hear their opinions. - - I thought that it was really rewarding to really tackle all the problems they had." (Interviewee 3)*

Secondly, collaboratively discussing and defining the **concrete goals** of the service design project was seen to support the target-oriented work during the project. One interviewee remarked that this goal setting made the service design project positively stand out from the rest of the projects she had been involved in.

> *"It was a really good conversation, the one we had regarding the goals. We really got some concrete things out of it." (Interviewee 3)*

When it comes to design enablers, the **novel and interesting methods** utilized in the case project were commended. These methods included behavioral profiling, utilizing paper prototypes in the interviews, and hypothesis-based development of service ideas. Naturally, these methods were present in all process phases except the Prepare phase, but their effect was observed the clearest in the Hear phase.

> *"It pays off to present something concrete; suggestions or ideas, and to throw them before the people and get feedback from those." (Interviewee 8)*

4.4.3. Create phase

Based on the interviews, the Create phase featured one enabler from each thematic category.

The collaboration-related enabler that influenced the project participants the most in the Create phase, was **working together in workshops**. Most participants referred to this enabler one way or the other: some found joint ideation fruitful, while others perceived the workshops as builders of team spirit. Even participants, who did not attend some workshops, seemed to benefit from the collaborative work: the energy welling from the workshops spread to them through the excited accounts of the other project participants. Moreover, working together was seen to have created a shared sense of ownership of the project outcomes across participants from different organizational units. Naturally, the diversity of the project team was also seen to contribute to these outcomes and the success of the workshops.

> *"We had lots of people involved from the different parts of our organization, from different roles. I thought that that was a really good thing. - - I mean it concretely, that we've had those people there physically to tell their opinions." (Interviewee 1)*

> *"Every time people came out from those workshops in which I could not attend that often, I felt that everybody was full of energy - - and from them the energy welled to me." (Interviewee 4)*

From the design point of view, the **workshops** were considered **structured and target-oriented**. As the service designers took the facilitative role of the action, the participants from the telecom operator were allowed to, for once, focus on smaller parts of the large project. However, due to successful planning and clear goals, the role of these smaller components in the larger picture never remained unclear.

> *"We got clear instructions, so it was easy for us to start work in the workshops." (Interviewee 6)*

On the organizational and managerial side, the project participants considered **concretizing learnings into a shareable form** to have positively affected their current work. At the end of the Create phase, the project leader collected all the material from the written summaries of the interviews to the finalized outcomes, and formulated them to suit several future purposes. Thus, the threshold of getting back to the material was lowered as much as possible.

> *"You can always go back to the material if you need it, the threshold for going back is low. It is currently in an electronic format, but we have also discussed that it could be even more on display here." (Interviewee 8)*

4.4.4. Implement phase

The detailed design and implementation of the online self-service has only begun, and thus, the project participants were not able to review the entire Deliver phase from the perspective of enablers. Nevertheless, a few participants did acknowledge the importance of the **regular utilization of project results**: Frequent meetings and teamwork that apply the outcomes keep the important insights in mind, and increase the likelihood that they truly affect the future online self-service. In this respect, the behavioral profiles were especially praised, even though some participants still felt uncertain about the situations in which they could be applied.

> *"We are going to have regular meetings. The regularity helps. When we are summoned together on certain intervals, so that the completed work is not forgotten." (Interviewee 1)*

> *"Where in our work could we utilize these profiles, and in which ways, that is maybe something that I'm still pondering on." (Interviewee 3)*

4.4.5. General enablers

Similarly as in the case of challenges, some enablers were seen to rather concern the whole case project than only individual phases of it. These enablers represent the categories of design, and organization and management.

First, **the attitude and skillset of the service designers** was considered a significant promoter of the service design project. The casual and uncomplicated communication, as well as the professional grasp on the project created a positive and trusting atmosphere among the whole project team.

> *"The people from (the service design agency), their attitudes and delivery had a really good influence, they were a refreshing gang. Pretty informal." (Interviewee 6)*

Second, **open intraorganizational communication** within the project team of the client organization greatly contributed to the case project. The participants were pleased with the amount of informal conversation and exchange of knowledge and experiences that took place during the project. In addition, they found that the project leader had the project well under his control and invested his time in communication regarding the progress of the project. Apart from oral communication, knowledge

was shared in a written form, as the project participants were provided with written summaries and memos. All in all, active communication enabled even the busiest employees to stay informed of the developments of the project, and thus, made effective teamwork possible.

> *"I considered positive everything that happened between those physical actual meetings. I mean the conversations that we had." (Interviewee 2)*

> *"Notes and experiences have been really good, so I've been able to utilize them, when we have been thinking about user stories." (Interviewee 4)*

4.5. BRIDGING THE EMPIRICAL CHALLENGES AND ENABLERS

The two preceding chapters have presented the challenges and the enablers that the project participants observed during the case project. In this chapter, these findings will be discussed and analyzed together as a whole. Thus, this chapter is an empirically based counterpart to the chapter 3.6, which ponders on the same topics from the perspective of the service design literature. This chapter begins with a discussion on the thematic distribution of the challenges and the enablers, and thereafter, it briefly contemplates the spread of these factors along the participant-based service design process.

The thematic distribution of the challenges and the enablers provides an intriguing outlook on the areas that affected the case project the most. The distribution has been summarized in Table 6.

Table 6 - Thematic distribution of empirical factors

	Challenges	Enablers
Collaboration	1	3
Design	4	3
Organization & management	7	4
TOTAL	12	10

According to Table 6, the empirically gathered enablers of service design spread rather equally among all thematic categories. The challenges, on the other hand, clearly concentrate in the organizational and managerial category. Based on the

literature, it would seem legitimate to assume that the cluster could be explained by the client organization not yet having enough time to adapt to the service design approach. However, the organizational and managerial challenges identified in the case project (e.g. *lack of time and resources* or *cogs of bureaucracy*) are probably encountered in all types of projects, not solely in service design. In addition, the obstacles related to service design have been coherently categorized into the design category, and consequently, they should not intermingle with the organizational factors.

As the clash between the accustomed and the novel ways of working does not seem to sufficiently explain the concentration of the challenges in the organizational and managerial category, I suggest another solution: The organizational and managerial challenges might stand out, as out of the three categories, this particular category is most explicitly present in the daily work of the project participants. In other words, the participants communed with this category considerably more than with the two remaining themes. After all, the interaction between the participants and the service designers mostly occurred via the project leader, and the team collaboration channel was barely utilized at all.

This interpretation could find support from the side of the enablers, as well: Most of the identified enablers belong to the category of organization and management, which could be explained through the same reasoning. However, despite spearheading in the amount of enablers, organization and management still more likely hinder than promote service design. The other thematic categories, then again, have either a strong positive (collaboration) or a rather neutral (design) effect.

The thematic distribution of challenges and enablers along the service design process (see Figure 18) interestingly reflects the changes in central actors of the process. The Prepare phase occurred completely in-house, and consequently, both the challenges and enablers in this phase concern organization and management. The beginning of the Hear phase featured the inclusion of service designers, which evidently shows as a peak in design-related challenges. However, as the initial shock faded, the design seemed to rather enable than hinder the process. Finally, in the Deliver phase, the focus shifts back to organization and management, as the telecom operator carries out the phase independently.

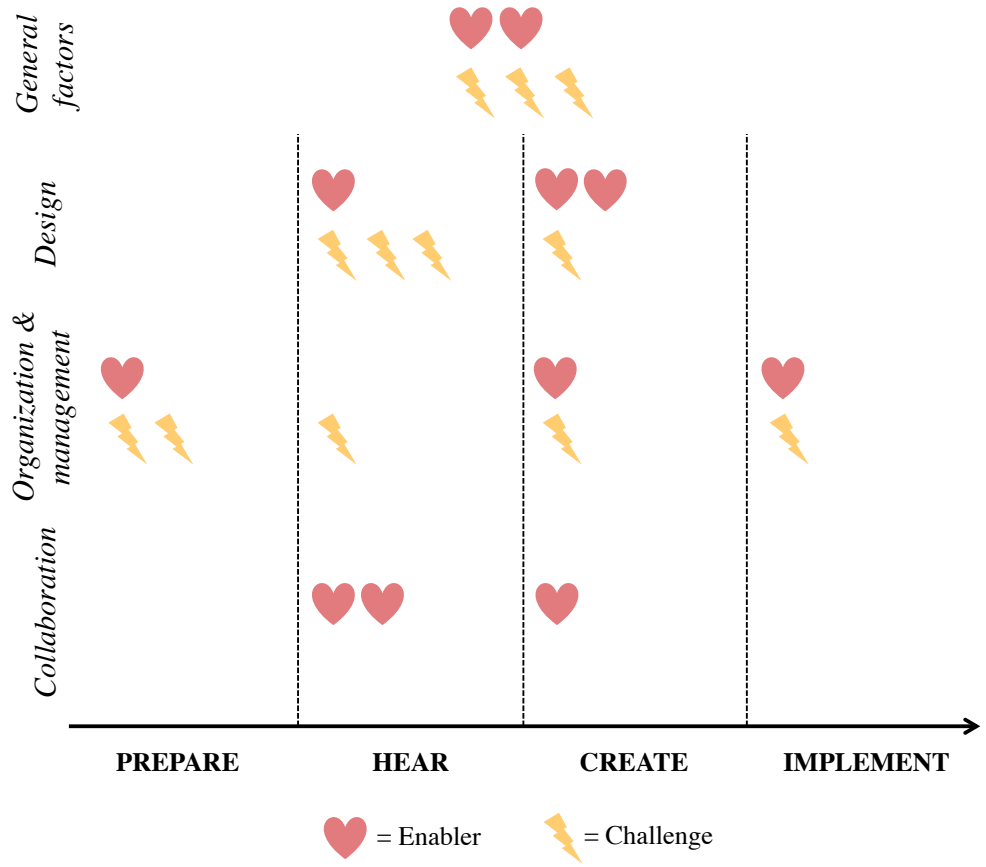

Figure 18 - The thematic distribution of challenges and enablers along the P-H-C-I model

4.6. SUMMARY OF EMPIRICAL FINDINGS

This chapter summarizes the findings of the empirical study. It follows the order of the previous chapters in this section.

Most of the participants of the case project assessed that they had prior experience of service design. However, the concept of service design was considered vague, and consequently, some interviewees stated that they do not actually know what service design is or how it could be defined. The scattered impression of the essence of service design became particularly clear, when the characteristics of service design were discussed: The participants identified altogether nine traits, yet only one of them was mentioned in the majority of the interviews. Table 7 summarizes the identified characteristics.

Table 7 - Empirical service design characteristics with descriptions

Characteristic	Description
Customer-centered	Taking the customer perspective as the starting point of the project, and engaging in deeper interaction with customers.
Diversity of project participants	Involving employees with diverse backgrounds and from multiple organizational units.
All-inclusive	Considering the service from multiple viewpoints, such as business, technology and customers.
Iteration through prototyping	Continuously developing the service ideas through prototypes, interviews and workshops.
Usability and user experience	Aiming for a usable and easy-to-use solution from the customer perspective.
Creating new needs to customers	Creating novel behavioral patterns and utilizing them to change the behavior of customers.
Challenges existing beliefs	Bringing forward the assumptions that the organization has regarding e.g. customers or the functionalities of the current service.
Standardized process	Taking certain aspects (e.g. the true need for the service, the objectives, the success factors) into account in every project.
Design techniques	Concretizing intangible concepts with visualizations.

Based on the mentioned characteristics, service design can be defined as follows: *Service design brings together employees from different organizational levels to develop a new or an existing service by applying a customer-centered mindset and iterative prototyping. Service design aims at superb usability and user experience, and considers the service all-inclusively from multiple angles.*

This definition describes the actors, methods and objectives of service design, but does not shed light on the wider context or background of the field. Thus, it reflects the practice-based experience that the interviewees have of service design. Moreover, the empirical origin of the definition shows in the emphasis that the definition puts on the active role of the employees of the client organization.

In addition to portraying the most significant characteristics of service design, the interviewees were requested to describe the process of the case project. These descriptions leaned on the personal involvement of the participants, and thus, they

did vary. Nevertheless, the descriptions can be grouped into three basic types: The first type highlights the beginning and the end of the process, while the activities in the middle are only briefly mentioned. The second type features mostly supportive actions and portrays a low level of involvement in the project. Finally, the third type contains a multitude of activities along the whole length of the project.

Based on the three process descriptions, a general account of the process of the case project was formulated. This account was further utilized as a foundation for a higher-level participant-based process model of service design. This model encompasses four phases: First, the need for a new service is recognized, the current state of the service is analyzed and a service design partner is sought (Prepare). Next, the focus is shifted to understanding the needs, problems and wishes of the service users (Hear), and constructing service ideas, which can be prototyped (Create). These two phases require constant communication, and they are iteratively looped until the final service ideas can be selected. As the last phase in the process, the new service is planned in detail and eventually implemented (Implement).

The interviewees identified several factors that either hamper or promote the described service design process. These factors can be classified into three thematic categories: collaboration, design, and organization and management. Altogether 12 challenging factors and 11 enabling factors were observed, and the majority of both relate to organization and management. The emphasis on this particular category might be a result of the closer contact that the project participants have with the category, when compared to the other two categories. However, organization and management still more likely hinders than supports service design. According to the interviewees, the remaining two categories have either a positive (collaboration) or a fairly neutral (design) effect on service design.

5 DISCUSSION

In this section, the findings of the literature review and the empirical study are brought together and discussed as a whole. The section is divided into three chapters: The first chapter ponders on the definition of service design, the second one discusses the service design process, and finally, the third chapter focuses on the challenges and the enablers of service design.

5.1. SERVICE DESIGN

Even though the roots of service design can be traced within service design literature, a consensus on the essence or the definition of the field has yet not been reached. This deficiency impairs the cohesion of service design as a research arena, and has become apparent within the practice of service design, as well: Client organizations rarely define service design projects as service design, and based on the empirical study, the field seems to be easily confused with service development and user interface design.

Indeed, defining service design seems to be neither a straightforward nor a simple task, and the heterogeneity of service design projects has resulted in definitions that emphasize differing aspects of the field. In this thesis, the emphasis has been put on defining service design from the perspective of the project participants. However, in order to accomplish this goal, service design has also been defined based on its descriptive characteristics utilized in service design literature.

The characteristics identified by the project participants and the characteristics observed in service design literature seem both highly similar and somewhat differing. When it comes to similarities, both reference parties acknowledged user- or customer-centeredness as the most significant trait of service design. In addition, iteration and the holistic or all-inclusive viewpoint were emphasized. However, despite the similar dictions, these characteristics may still denote differing things to different parties: For instance, service design researchers often consider user-centeredness as the ultimate core that every activity should be based on, while in the world of practice, it seems more of a reflective mindset. The true placement of user-centeredness among all objectives of the client organization (e.g. growth or cost efficiency) cannot be stated based on the data of this thesis, yet some of the interviewees did fear that the customer-centered outcomes might be easily

overpowered under pressure.

As for the differences between the viewpoints of the project participants and service design literature, the perspective of the participants appears clearly more company-oriented: The participants consider service design to challenge *their* existing assumptions and to create new needs to *their customers*, and the internal diversity of *project participants* was emphasized more than the multidisciplinarity of the whole project team. Despite appearing somewhat biased, this perspective could be considered positive, as well; it signals that project participants feel involved in service design instead of regarding it solely as a superimposed way of working.

Interestingly enough, project participants do not seem to connect service design as much to the design tradition as to the development of digital services. Visual methods, or designing complex systems and relations were either not significant in the case project, or they might have been considered as components of e.g. workshops instead of traits of service design. From the perspective of service design literature, this lack of emphasis naturally seems peculiar, as to service designers, the methodology and the origin of the field come as a given.

Even though the project participants of the case project claimed to have participated in different types of service design projects, they did not perceive heterogeneity as a central characteristic of service design. This could stem from the formulation of the interview questions: the interviewees were requested to describe the most important traits of service design from their viewpoint, and to ponder on the characteristics that differentiated the case project from regular projects. The dictions of the questions evidently led the participants to search for common traits instead divisional traits such as heterogeneity, which might require theoretical background to get noticed.

The described differences between the participant perspective and the service design literature obviously reflect to the definitions of service design that were constructed in this thesis. The participant-based definition focuses on tangible and practical aspects, and highlights the role of the project participants. However, it lacks the understanding of the roots and the context of service design, which the theory-based definition does include. In addition, the theory-based definition might suit better projects, which bring together a wide network of organizations, as the definition highlights complexity and multidisciplinarity on a larger scale than the participant-based definition.

All in all, it seems that participants of a service design project define service design rather narrowly, when compared to service designers. In addition, the difficulties in describing service design characteristics demonstrate the experienced vagueness of the concept. The ambiguity can prove an obstacle not only in spreading the service design approach, but also in creating impact: Unless the project participants understand, what a service design project is, and where the outcomes of it can be applied, the results will likely remain nice-to-have ideas instead of must-have game changers.

5.2. SERVICE DESIGN PROCESS

The existence of a general "service design process model" appears a controversial topic in service design literature. According to the critical branch of researchers, no such description can or even should be produced, whereas the moderate scholars consider common guidelines as a possibility for unifying the field. This thesis has followed the latter line of thinking, as a process model was regarded a potentially useful boundary object for understanding the world of the participants.

From the participant point of view, the theoretical discussion on service design processes seems over-complicated. Process phases, such as the Hear phase or the Create phase, create little value to participants as such, but an overall understanding of the process contributes to their collaboration with service designers. If this understanding remains defective, the outcomes of the project will hardly be utilized to their full potential, as the process forms the foundation of the results. Consequently, service designers should invest their time in building the comprehension of the process already in the early phases of the project.

In the literature review of this thesis, a service design process was first visualized with a Hear-Create-Deliver model, which begins, when the collaboration between service designers and their client organization commences. However, the empirical study revealed that, for project participants, a service design process starts already before service designers join the project. This preparatory phase probably resembles the early stages of any other project, and thus, its existence is readily forgotten. Nevertheless, this phase and the analysis of the current state of services could hold great potential for service design agencies to offer their assistance with and hence, advance their entries to projects.

The Hear, Create and Deliver/Implement phases appear essentially similar from the perspectives of participants and service design literature. However, participants seem to highlight the significance of supportive in-house operations and meetings, as well as internal communication during the phases in question. These remarks build a more complete picture of service design, as the theoretical designer-led process is supplemented by an active counterpart on the side of the participants. Indeed, a service design process of project participants might include considerably more action than initially meets the eye of service designers in joint meetings or workshops.

5.3. CHALLENGES AND ENABLERS OF SERVICE DESIGN

Both project participants and service design literature acknowledge a wide array of factors that either challenge or support a service design process. These challenges and enablers are summarized for comparison in Tables 8 and 9 respectively. In both tables, the emphasis is put on the participant perspective and thus, the theoretical factors that did not emerge in the empirical study (18 challenges and 12 enablers), are not included. However, the exclusion does not imply that project participants would not consider these factors important; it simply indicates that the challenges and the enablers in question did not play any role in the case project.

On the grounds of the tables, project participants encounter various hindrances and promoters for which rough equivalents can be found in service design literature. Exact matches, on the other hand, seem to be rare. This could stem from the levels of detail of most factors: the theoretical factors are generally more extensive than the respective practical ones (i.e. *Managing creative collaboration* vs. *The lone role of the project leader*). Thus, these factors cannot be called equivalents even though they include similar elements.

In a few cases, the theoretical and the practical factors revolve around the same issue and supplement each other. For instance, for the participants of the case project, the attitude of the service designers was equally or even more important than their skillset, whereas in service design literature, the skillset is explicitly highlighted. Following the same logic, participants seem to value concrete goals more than common goals, which service design literature emphasizes. These cases importantly remind us that the perspectives of service designers and project participants do not have to neither support nor oppose each other, but they can together build a complete picture of service design.

Table 8 - Summary of challenges

Empirical challenge	Relation	Theoretical challenge
Lack of time and resources	*Similar*	Lack of time and motivation
Low level of participation outside meetings	*Similar*	Lack of time and motivation
Understanding the big picture	*Similar*	Adapting to new or different ways of working and / or Misconceptions regarding design
Small quantity of interviews	*Similar*	Adapting to new or different ways of working and / or Misconceptions regarding design
Cogs of internal bureaucracy	*Similar*	Hierarchical organization structure
The lone role of the project leader	*Similar*	Managing creative collaboration
Unsuccessful kick-off	*Similar*	Motivating the whole network to participate
Choice of team collaboration channel	*Similar*	General barriers of interaction
Challenges with IT systems	*New*	-
Too polished workshop material	*New*	-
Evaluating the current situation	*New*	-
Mental baggage from previous projects	*New*	-

Table 9 - Summary of enablers

Empirical enabler	Relation	Theoretical enabler
Concretizing learnings into a shareable form	*Match*	Concretizing learnings into a shareable form
Structured and target-oriented workshops	*Match*	Structured and inspirational workshops and / or Facilitation
Creating a sense of urgency	*Match*	Creating a sense of urgency
Working together in workshops	*Similar*	Co-design
The inclusion of end users	*Similar*	Co-design
Attitude and skillset of designers	*Similar*	Designer's skillset
Concrete goals	*Similar*	Common goals
Novel and interesting methods	*Similar*	Well chosen and designed methods, tools and materials
Open intraorganizational communication	*New*	-
Regular utilization of project results	*New*	-

In addition to the similar factors, the participants of the case project identified six completely or mostly new factors that affect service design projects. Out of these factors all but one relate to organization and management, and the factors seem to concentrate in the beginning and in the end of the service design process. Interestingly enough, these two parts of the process were the only ones in which the service design agency was not involved. Thus, this thesis has succeeded in craning out of the traditional research arena of service design projects. In addition, the observation backs the earlier speculations of the lack of research regarding the side of organization and management, as well as the general designer-orientation of service design literature.

When it comes to the distribution of all identified factors along the service design process, both project participants and service design literature suggest that especially challenges concentrate in the beginning of the cooperation between the client organization and the service design agency. From the viewpoint of the designers, these challenges are related to collaboration, as the methods and the way of working are already well known, whereas the project participants emphasize design-related troubles. Due to the amount and the variety of these challenges, this thesis stresses the importance of proactively boosting and searching for factors that could support the initial collaboration between project participants and service designers.

6 CONCLUSIONS

This final section presents the answers to the research questions posed in the beginning of this thesis. In addition, the section contemplates and evaluates the validity and the limitations of the study, discusses both the theoretical and the practical implications of the thesis, and proposes topics for future research.

6.1. ANSWERS TO RESEARCH QUESTIONS

This thesis has strived for understanding service design from the perspective of the participants of a service design project. In the beginning of the study, this aim was formulated into an overall research problem:

What is the perception that participants of a service design project have of service design?

The research problem was divided into eight sub-questions, four of which were tackled through a theoretical literature review, and the remaining four through the empirical study. The theoretical research questions did not concern the participant perspective, as such, but built a foundation for the empirical study, which focused on the experiences of the participants. Next, the research questions are answered one by one, and at the end of the chapter, the research problem is addressed.

TRQ1. What is service design?

Currently, no clear consensus on the definition of service design exists among service design researchers. Thus, this thesis has pursued an understanding of the field by mapping the characteristics utilized to describe service design in service design literature. As a result, nine significant characteristics were identified:

- User-centered
- Visual methods and prototyping
- Holistic
- Multidisciplinary and collaborative
- Complexity
- Iterative
- Heterogeneous process

- Arranges entities into sets of relations
- Useful, usable and desirable solutions

Based on these characteristics, service design can be defined as *"a design-derived field of practice, which aims at creating useful, usable and desirable service solutions to wicked and complex problems by pursuing a holistic understanding of the whole service ecosystem. Service design processes are heterogeneous, but design the multiple service components and their relations by utilizing a user-centered, multidisciplinary and collaborative approach together with visual design tools and prototyping"*.

TRQ2. What is a service design process?

The existence and the contents of a general "service design process" appear controversial topics in service design literature. However, the existing service design process models include fundamentally similar phases. These phases can be described through a Hear-Create-Deliver process. According to this model, a service design process begins with a Hear phase, which focuses on understanding the needs, problems and wishes of service end users and the client organization. The created comprehension is utilized in the Create phase as a basis for iterative ideation and prototyping, which helps the project team prioritize the service concepts. In the Deliver phase, the chosen service solution is implemented and launched.

TRQ3. What challenges does a service design process include?

In the course of a service design project, several factors might challenge or hinder the action. These factors can relate to design, collaboration, or organizational and managerial issues, and concern either a single process phase or the whole service design process. Based on service design literature, altogether 25 challenges can be identified:

Before the service design project
- Procuring service design

Hear phase
- Creating trust
- Lack of shared context and language
- Adapting to new or different ways of working
- Motivating the whole network to participate
- Information overload
- Finding the real problem and negotiating common targets
- Misconceptions regarding design
- Understanding the complexities of the public sector
- Connection to service users

Create phase
- Group dynamics and roles
- Managing the interplay between the problem space and the solution space
- Challenges in prototyping
- Lack of time and motivation
- Untangling oneself from the present restrictions

Deliver phase
- Validating the solution
- Creating commitment to changes
- Implementing designed changes
- Disseminating learnings

General challenges
- General barriers of interaction
- Choice of design means and tools
- Location at organizational periphery
- Hierarchical organization structure
- Managing creative collaboration
- Lack of management support

Even though the identified challenges spread along the whole service design process, they seem to concentrate in the beginning of the process. These challenges mostly relate to collaboration, and should be tackled as soon as possible in order to prevent them to moving forward in the process and causing larger conflicts later on.

TRQ4. What are the enablers of service design?

The current service design literature features no studies dedicated to understanding the enablers of service design from the viewpoint of a complete service design process. This thesis has analyzed the enablers by collecting them from existing literature and categorizing them similarly as the service design challenges. A total of 19 enablers were identified:

Before the service design project
- Creating design readiness

Hear phase
- Common goals
- Creating a sense or urgency
- Open and dialogic atmosphere
- Showcasing early wins
- Focus on true and emphatic listening

Create phase
- Facilitation
- Co-design
- Practical arrangements of workshops
- Structured and inspirational workshops

Deliver phase
- Concretizing learnings into a shareable form
- Tailoring and bite size trials
- Engaging and transparent communication of the change

General enablers
- Positive attitude and general interest
- Continuous participation and communication
- Designer's skillset
- Well chosen and designed methods, tools and materials
- Internal change agents
- Management support

Based on the analysis, all the phases of the Hear-Create-Deliver model include enablers. However, the spread into the thematic categories appears unequal: While Design and Collaboration feature almost as many enablers as they contain challenges, in the organizational and managerial context, the enablers are a distinct minority. This imbalance may stem from the novelty of the service design approach, the designer-orientation of service design literature, or the lack of research regarding organizational and managerial enablers.

ERQ1. How could service design be defined from the perspective of the participants of a service design project?

Based on the empirical study of this thesis, service design has remained a vague concept to project participants. Even after taking part into service design projects, the participants may not feel confident defining service design or specifying the distinguishing characteristics of it. According to the participants of the case project of this thesis, the nine most significant service design characteristics are:

- Customer-centered
- Diversity of project participants
- All-inclusive
- Iteration through prototypes
- Usability and user experience
- Creating new needs to customers
- Challenges existing beliefs
- Standardized process

- Design techniques

Only one of these characteristics, customer-centeredness, was mentioned in the majority of the interviews. Due to the scattered impressions, the participant-based definition of service design was constructed on the basis of the characteristics that were observed by at least two project participants. Within this precondition, service design can be defined from the participant perspective as follows: *"Service design brings together employees from different organizational levels to develop a new or an existing service by applying a customer-centered mindset and iterative prototyping. Service design aims at superb usability and user experience, and considers the service all-inclusively from multiple angles"*.

ERQ2. How do participants perceive a service design process?

Employees of a client organization take part in a service design process according to the time and the resources they have available. Thus, their perceptions of the process vary. However, as a general rule, participants seem to be more interested in the concrete activities than the generic phases of the process.

Based on the different process descriptions gathered in the empirical study of this thesis, a general participant-based process model of service design was constructed. This model contains four phases: Prepare, Hear, Create and Implement. In the Prepare phase, the need for a change is recognized, the state of the current service(s) is analyzed, and a service design agency is sought. Next, in the Hear phase, the focus is shifted to understanding the world of the end users. This comprehension is, then, utilized in the Create phase in which service ideas are constructed and prototyped. Both the Hear phase and the Create phase rely on efficient in-house operations and constant communication among the project participants. Finally, in the Implement phase, the chosen service solution is planned in detail and eventually implemented.

ERQ3. What challenges do the participants encounter?

The participants of the case project of this thesis identified altogether 12 challenges that hindered their participation in the service design project:

Prepare phase
- Evaluating the current situation
- Mental baggage from previous projects

Hear phase
- Understanding the big picture
- Unsuccessful kick-off
- Small quantity of interviews
- Low level of participation outside meetings

Create phase
- Too polished workshop material
- The lone role of the project leader

Implement phase
- Cogs of internal bureaucracy

General challenges
- Choice of the team collaboration channel
- Lack of time and resources
- Challenges with IT systems

These challenges resemble the hindrances gathered from the service design literature, and yet, no clear matches between the two listings were found. This results from differences in the levels of detail: the challenges that participants encounter are generally more specific than their theoretical counterparts. However, participants seem to concur with theory, when it comes to the thematic categorization of the challenges: Most of the encountered hindrances relate to organization and management. Moreover, out of the new-to-theory challenges identified by the participants, all but one are connected to organizational and managerial issues.

ERQ4. What do the participants consider as enablers of service design?

According to the participants of the case project, service design can be promoted through 10 enabling factors:

Prepare phase
- Creating a sense of urgency

Hear phase
- The inclusion of end users
- Concrete goals
- Novel and interesting methods

Create phase
- Working together in workshops
- Structured and target-oriented workshops
- Concretizing learnings into a shareable form

Implement phase
- Regular utilization of project results

General enablers
- Attitude and skillset of service designers
- Open intraorganizational communication

Interestingly enough, out of the three thematic categories, Organization and management seems to include the most enablers. This emphasis put on the

organizational issues presumably results from the close connection that the participants have with the category in their daily work. However, Organization and management still more likely hinders than promotes a service design process.

Research problem: What is the perception that participants of a service design project have of service design?

From the perspective of project participants, service design remains an ambiguous concept. Instead of considering it a design-derived field of its own, participants seem to readily confuse service design with digital service development. Service design is seen to materialize in customer-centered activities, yet customer-centeredness acts more as a mindset for self-reflection than the pervasive core of the process.

When compared to service design literature, participants emphasize the active role of the client organization, which introduces a fresh outlook to service design research. This inclination manifests in internal meetings, supportive background operations and communications, which are considered equally significant parts of a service design process as the joint workshops and interviews with the service designers. In addition, the service design process of project participants begins with an exploratory in-house phase, and the service designers only join the process after that.

From the perspective of the participants, several factors can either hinder or support a service design process. Many of these factors resemble the challenges and the enablers encountered by service designers (e.g. lack of time and resources, or concretizing learnings into a shareable form), but generally, the participant-based factors seem more specific than their literature-based counterparts. Moreover, participants possess a clearer view to the organizational and managerial aspect of service design, and consequently, these factors play a central role to them.

All in all, the participant perspective provides an interesting organization-oriented outlook to service design. It shares relatively many viewpoints with service design literature, but seasons these views with its own flavor. Finally, the participant perspective can be considered to increase the depth of the current understanding of service design as a research area and a field of practice.

6.2. EVALUATION OF THE STUDY

This chapter evaluates this thesis from three perspectives: first, it discusses the validity of the research, then the theoretical limitations of it, and finally, the limitations concerning the data.

6.3.1. Validity of the research

Several approaches exist for evaluating the validity of qualitative research. This thesis applies the framework presented by Guba and Lincoln (1989), which consists of four judging criteria: credibility, transferability, dependability and confirmability. Next, these criteria are briefly presented, and the thesis is evaluated based on them.

Credibility refers to the degree to which the results of a study can be considered believable. In other words, it concerns the truthfulness and the conviction of the deduced causalities. (Guba and Lincoln, 1989) As the empirical sample of this study remained relatively small, the importance of the credibility of the findings stands out. During the study, credibility was promoted within the interviews: I settled on the visual method of interviewing, as it enabled me to constantly verify my understanding of the comments of the interviewees. The interviewees were encouraged to add, remove, alter and re-arrange the visual notes, if needed, and thus, validate the empirical findings from their part. The voice recordings of the interviews further increased the possibilities to go back to the exact dictions of the interviewees. These dictions were utilized as much as possible to ensure that the nuances of the participant viewpoints were preserved.

Transferability judges the potential for generalizing the results of a study to other contexts. It can be enhanced by comprehensively explaining the reasoning and the settings of the study. (Guba and Lincoln, 1989) In this thesis, transferability has been taken into account in the written documentation of the research by extensively describing the context of the study. Even though the results of the thesis are not industry-dependent, as such, the forward-looking telecom industry is relatively familiar with modern methodologies, such as service design. Thus, it probably produces more positive results than traditional industries. This should be taken into account, when transferring the results of this thesis to other contexts.

The third criterion, **dependability**, addresses the consistency of the research process; the process should be trackable and inspectable, and the effects of possible changes on the research should be accounted for. In addition, the process should advance independently from the identity of the researcher. (Guba and Lincoln, 1989) In the context of this thesis, I was connected with the case project through my role as a service designer. Thus, it is possible that the interviewees did not share their most radical feelings or formulated their answers overly politely in order to remain in friendly terms with me. This risk was taken into account by emphasizing the un-connectedness of the thesis and the service design agency in the beginning of each interview.

The interviews of this thesis were conducted in Finnish, but the direct quotations had to be translated into English in order to include them into the thesis. This translation process features the risk of accidental misinterpretations and false choices of dictions. However, the quotations were only translated after the analysis process had been conducted in Finnish, and consequently, the causalities of the reported data should have remained intact.

Finally, **confirmability** refers to the extent to which the results of a study are free of bias, values and prejudice; the researcher affects the results more or less, but confirmability ensures that the findings do not completely rely on the subjective perspective of one person. In addition, confirmability refers to the indispensable link between the presentation of the findings and the actual data. (Guba and Lincoln, 1989) Due to the lack of reference material regarding the participant perspective of service design, I have plausibly had a larger than average effect on the results of the study. In order to balance this subjective tendency, two other researchers audited the work, and corrections were made accordingly. In addition, the empirical section of the thesis was supplemented by a wide range of direct quotations from the interviews. These citations enable the readers of the thesis to draw their own conclusions, and to reflect on the deductions provided by me.

6.3.2. Theoretical limitations

As no previous literature regarding the participant perspective of service design exists, the literature review of this thesis reflects the viewpoint of service designers. The results of the literature review were obviously not utilized as such to describe the perspective of the participants, but they affected the mental models,

frameworks and interview questions utilized in mapping the reality of the participants. Forced choice or not, the lack of theory regarding the participant perspective has certainly limited the possibilities and the depth of the thesis.

In addition, the novelty of the service design field has set its own limitations to the theoretical section of this thesis. First, some older but relevant material has undoubtedly been excluded from this thesis, as it does not carry the label of service design. This is unfortunate, yet combing through all potentially useful material from related fields could not have been accomplished within the time frame of this thesis. Second, the share of academic journals in the reference materials has remained relatively small. Instead, the thesis mostly rests upon conference papers, handbooks and other practically inclined publications.

6.3.3. Data limitations

The empirical section of this thesis consists of a single-case study, during which eight participants of the case project were interviewed. Even though these eight persons composed nearly the whole project team, the sample can be considered rather small for creating new theory. A wider set of participants or case projects is definitely needed for constructing more robust vision of the participant perspective of service design. This thesis aimed simply at building a foundation for this future research, and for this purpose, the data set can be considered adequate.

The eight persons interviewed during the empirical study all represented the telecom operator, as the service end-users were not actively involved in the case project. Thus, the image this thesis creates of service design still lacks a third, equally important viewpoint. In order to form a complete picture of service design, the end-user view should be researched, as well. Luckily, the interviewed employees represented a range of functions and roles around the telecom operator, and possessed varying prior experience of service design. Thus, the side of the client organization was covered somewhat extensively.

Finally, the topic of the thesis proved rather broad and intricate to be thoroughly discussed during a one-hour interview. The time limit was set to attract as many project participants to the interviews as possible. Especially, when the interviewee had taken part in most of the project activities, I found that elaborating all interesting aspects was simply not possible. This naturally affected the depth of the

results of the study. However, this thesis has strived for a wide overall view of the whole service design field instead of deep analyses of several factors. Consequently, this limitation should be considered more a general observation than a serious problem.

6.3. PRACTICAL IMPLICATIONS

The practical objective of this thesis was to gather and create empirically based understanding of the perception that participants of a service design project have of service design. Based on the results, several practical conclusions can be drawn to support the success of a service design project. These implications include recommendations for both project participants and service designers.

The results of this thesis suggest that the client organization and the project participants themselves could positively affect the service design process and the outcomes of it by applying the following implications:

- Allocate time and resources for the service design project. Most participants are likely unfamiliar with the mindset and the way of working and thus, they might require additional time to familiarize themselves with upcoming activities. Ensure that at least the core participant group can be involved in most of the activities during the process.
- Replace the traditional system-centered mindset with a user-centered one. Make sure that the user-centered outcomes of the service design project do not get clogged in the cogs of organizational bureaucracy.
- Communicate, and share information and insights internally during the service design process. Informal knowledge sharing, especially outside workshops and meetings, keeps the participants aware of the progress of the project.
- Concretize the learnings of the project into a shareable form in order to increase their practical utilization rate. Utilize the results regularly to keep them in mind.

From the viewpoint of the service designers, the following practical implications can be drawn from the results of this study:

- The service design process of the project participants begins already before the initial contact is made with the service designers. Scout for companies that could benefit from professional assistance in analyzing the current state of their services.
- Illuminate the concept of service design, as well as the upcoming process as soon and as clearly as possible. Explain the connections between the activities and clarify, when and how the results of the project can and should be applied.
- The challenges and the enablers that the project participants experience might differ from the factors observed by the service designers. If the service design project has a designated project leader from the side of the client organization, discuss with him or her, how to boost the cooperation between the two organizations.
- Select a collaboration channel, which the project participants are accustomed to utilize.
- Keep in mind that participants do not form a homogeneous cluster of passive objects, but an active and heterogeneous group of content specialists. Construct structured and target-oriented workshops that support these persons to utilize their knowledge to the fullest.

6.4. THEORETICAL IMPLICATIONS AND FUTURE RESEARCH

The theoretical objective of this thesis was two-fold: First, the thesis pursued a unified vision of service design based on the portrayals existing in service design literature. Second, the thesis aimed at creating a foundation for a novel theoretical research arena regarding the participant perspective of service design.

The results of this thesis indicate that service design, as a field of research, still suffers from incoherence. Unifying studies concerning, for instance, the definition, the challenges and the enablers of service design could help bridge the existing research into a harmonious whole. In addition, academic research papers could elevate the field from narrow case studies towards more comprehensive and cumulative research. Due to its practical inclination, service design will unlikely ever become an excessively theoretical field, yet this should be considered one of its strengths.

6 CONCLUSIONS

Based on this thesis, especially the theoretical ambiguity around the definition of service design negatively affects the practice of the field. Thus, more emphasis should be put into clarifying the concept. The results of this thesis suggest that characteristics could prove a sustainable foundation for constructing a unified definition of service design, yet a more extensive review of service design literature would be needed to create a definition that truly reflects the whole field.

The topic of this thesis, the participant perspective of service design, seems a particularly neglected branch of service design research; the existing literature revolves around the experiences of service designers. However, this thesis has proved that participants, indeed, experience the service design process differently than service designers. Tapping into their reality can not only help service designers in conducting more successful service design projects, but also assist in constructing a complete theoretical picture of service design.

This thesis has merely scratched the surface of the participant perspective of service design. In future studies, the sheer volume of participants should be increased, and projects that actively involve end users should be included. Context-wise, the participant perspective should be researched within non-digital industries, and the case projects should vary from highly successful ones to failed endeavors. Finally, as service design seems to require a change of mindset from the participants, some research could be devoted to discovering, how this change could best be supported.

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APPENDICES

APPENDIX I: INTERVIEW OUTLINE

1. Start

Introducing the topic of the thesis and the aim of the interview

Introducing the topic of the thesis
Justifying the importance of it
Explaining the objective of the interview
- Mapping experiences
- No right or wrong answers

Asking for permission to record

2. Warm-up

Getting to know the interviewee

Who are you? What is your role?
Former experiences of service design
- What kinds of projects?
- What kinds of experiences?
- What stuck in your mind about about these projects?

How did you feel about this project?
- Expectations, fears, wishes…

3. Service design process

Sketching the experienced process on a flip chart sheet

How did you hear about the project?
How did you get involved?
What happened next?
(E.g. interviews, emails, workshops, probes, pre-tasks, own reflections, meetings…)
- In which phases did you take part?

How would you describe the common thread of the project?
What kinds of phases do you detect?
How will the results of the project affect your work?

4. Challenges

Mapping the encountered challenges with red post-it notes

Based on the sketched process:
- What caused you problems in this part of the project? Why?
- How did these challenges appear?

The challenges from the literature can be used as baits after the interviewee has had the chance to freely express his/her opinions.

5. Enablers

Mapping the encountered enablers with green post-it notes

Based on the sketched process:
- Which factors supported / motivated you during the project?
- How did these enablers appear?
- What was important to you during the project? Why?

The enablers from the literature can be used as baits after the interviewee has had the chance to freely express his/her opinions.

6. Definition

Mapping the perception that the interviewee has of service design

Which 3 things do first come to your mind, when thinking about service design?
From your viewpoint, what are the most important traits of service design?
How did these factors appear in the project?

What else would you like to share regarding the project or service design in general?

Whenever needed, the interviewee can add, alter, remove or re-arrange process phases, challenges and enablers.
This outline is used only as a guide for the interview.

APPENDIX II: LIST OF CHARACTERISTICS

Characteristic	Number of individual sources	Sub-traits	Number of individual sources	Sources
User-centered	34	User needs / empathy	27	Bessant and Maher, 2009; Blackmon, 2008; Brass and Bowden, 2009; Design Commission, 2013; Design for Government, 2015; Hyvärinen, 2015; Junginger and Sangiorgi, 2009; Keinonen et al, 2013; Kimbell, 2013; Koivisto, 2011; Kola, 2013; Kolmas persoona, 2014; Lin et al, 2011; Maffei et al, 2005; Mattelmäki, 2015; Miettinen et al, 2011; Moritz, 2005; New, 2008; Piirainen et al, 2012; Reason, 2008; Saco and Goncalves, 2008; Segelström, 2010; Stickdorn and Schneider, 2011; Sundbo and Toivonen, 2011; Vaahtojärvi, 2011; Vaajakallio et al, 2013; Voos and Zomerdijk, 2008
		Human-centered	10	Akama, 2009; Greger and Hatami, 2013; Holmilid, 2007; Junginger and Sangiorgi, 2009; Kimbell, 2009; Mattelmäki, 2015; Van Dijk, 2011; Voos and Zomerdijk, 2008; White, 2008; Young, 2008
		Highlights user experiences	7	Brass and Bowden, 2009; Kimbell, 2009; Kimbell 2013; Lee, 2011; Moritz, 2005; Vaahtojärvi, 2011; Vaajakallio et al, 2013
		Mediator between organization and users	3	Miettinen, 2011; Moritz, 2005; Vaajakallio et al, 2013
Visual methods and prototyping	31	Visual methods / boundary objects	21	Bessant and Maher, 2009; Blackmon, 2008; Brass and Bowden, 2009; Holmlid, 2007; Hyvärinen, 2015; Kimbell, 2009; Kimbell, 2013; Mager, 2009; Maffei et al, 2005; Mattelmäki, 2015; Miettinen, 2011; Morelli, 2009; Moritz, 2005; Reason, 2008; Sangiorgi, 2009; Segelström, 2010; Shostack, 1984; Sundbo and Toivonen, 2011; Vaahtojärvi, 2011; Vaajakallio et al, 2013; Whyte, 2008
		Design-derived methods	14	Design for Government, 2015; Holmlid, 2007; Hyvärinen, 2015; Junginger and Sangiorgi, 2009; Kimbell, 2009; Kimbell, 2013; Koivisto, 2011; Kola, 2013; Maffei et al, 2005; Miettinen et al, 2011; Reason, 2008; Segelström, 2010; Vaajakallio et al, 2013; Young, 2008
		Prototyping	14	Bessant and Maher, 2009; Brass and Bowden, 2009; Hyvärinen, 2015; Keinonen et al, 2013; Kimbell, 2009; Kolmas persoona, 2014; Lin et al, 2011; Mattelmäki, 2015; Miettinen, 2011; Moritz, 2005; Saco and Goncalves, 2008; Stickdorn and Schneider, 2011; Vaahtojärvi, 2011; White, 2008
		Makes services visible and tangible	10	Brass and Bowden, 2009; Kimbell, 2009; Koivisto, 2011; Mattelmäki, 2015b; Moritz, 2005; Shostack, 1984; Stickdorn and Schneider, 2011; Sundbo and Toivonen, 2011; Vaajakallio et al, 2013; White, 2008
Holistic	21	Holistic	16	Akama, 2009; Blackmon, 2008; Holmlid, 2007; Hyvärinen, 2015; Kimbell, 2009; Mattelmäki, 2015; Moritz, 2005; Reason, 2008; Saco and Goncalves, 2008; Sangiorgi, 2009; Segelström, 2010; Seidel, 2008; Stickdorn and Schneider, 2011; Tuononen 2013; Voos and Zomerdijk, 2008; White, 2008
		Involves a business model	10	Design for Government, 2015; Holmlid, 2007; Kimbell, 2009; Miettinen, 2011; Moritz, 2005; Reason, 2008; Saco and Goncalves, 2008; Shostack, 1984; Voos and Zomerdijk, 2008; White, 2008
		Observes a service on large and small scale	4	Goldstein et al, 2012; Kimbell, 2013; Moritz, 2005; Sangiorgi, 2009
Multidisciplinary and collaborative	21	Multidisciplinary and collaborative	21	Akama, 2009; Blackmon, 2008; Brass and Bowden, 2009; Greger and Hatami, 2013; Hyvärinen, 2015; Keinonen et al, 2013; Kimbell, 2013; Kimbell and Seidel, 2008; Kolmas persoona, 2014; Lee, 2011; Mattelmäki, 2015; Morelli, 2009; Moritz, 2005; Piirainen et al, 2012; Reason, 2008; Saco and Goncalves, 2008; Segelström, 2010; Stickdorn and Schneider, 2011; Vaajakallio et al, 2013; Van Dijk, 2011; White, 2008
		Highlights informal and tacit knowledge	2	Blackmon, 2008; Kimbell, 2009
Complexity	14	Complexity	10	Blackmon, 2008; Keinonen et al, 2013; Kimbell and Seidel, 2008; Lin et al, 2011; Morelli, 2009; Moritz, 2005; Piirainen et al, 2012; Reason, 2008; Saco and Goncalves, 2008; Sangiorgi, 2009
		No clear brief / open-ended	6	Bessant and Maher, 2009; Junginger and Sangiorgi, 2009; Kola, 2013; Morelli, 2009; Piirainen etl al, 2012; Vaajakallio et al, 2013

Iterative	11	Iterative	11	Brass and Bowden, 2009; Greger and Hatami, 2013; Hyvärinen, 2015; Kimbell, 2009; Kola, 2013; Lin et al, 2011; Miettinen, 2011; Moritz, 2005; Stickdorn and Schneider, 2011; Vaahtojärvi, 2011; Vaajakallio et al, 2013
Heterogeneous process	8	Heterogenity	5	Akama, 2009; Moritz, 2005; Seidel, 2008; Sundbo and Toivonen, 2011; Young, 2008
		Inexplicit or explorative process	4	Holmlid, 2007; Miettinen, 2011; Vaajakallio et al, 2013; Young, 2008
Arranges entities into sets of relations	7	Arranges entities into sets of relations	7	Brass and Bowden, 2009; Goldstein et al, 2012; Latour, 2005; Moritz, 2005; Ramirez and Mannervick, 2008; Stickdorn and Schneider, 2011; Young, 2008
Useful, usable and desirable solutions	7	Useful, usable and desirable solutions	7	Clatworthy, 2011; Junginger and Sangiorgi, 2009; Koivisto, 2011; Kolmas persoona, 2014; Miettinen, 2011; Moritz, 2005; Ramirez and Mannervick, 2008
Proposing attitude	5	Proposing attitude	5	Akama, 2009; Moritz, 2005; Reason, 2008; Saco and Goncalves, 2008; Vaajakallio et al, 2013
Ongoing	5	Ongoing	5	Goldstein et al, 2012; Holmlid, 2007; Moritz, 2005; Saco and Goncalves, 2008; Vaahtöjärvi, 2011
Practical	2	Practical	2	Kimbell, 2009; Saco and Goncalves, 2008
Connected to organizational transformation	2	Connected to organizational transformation	2	Akama, 2009; Junginger and Sangiorgi, 2009
Considers services as fluid arrangements	2	Considers services as fluid arrangements	2	Blackmon, 2008; Kimbell, 2009
Emphazises learning	2	Emphasizes learning	2	Stickdorn and Schneider, 2011; Whyte, 2008
Scalable solutions	1	Scalable solutions	1	Kimbell and Seidel, 2008
Begins at organizational periphery	1	Begins at organizational periphery	1	Junginger and Sangiorgi, 2009